

6 November 2019

Thomas Schulz, Group CEO

DRIVING SUSTAINABLE PRODUCTIVITY

WE DISCOVER POTENTIAL

 FLSMIDTH

Capital Markets Day – Driving sustainable productivity

Agenda

11.00 - 11.30 **Driving sustainable productivity** (Thomas Schulz)

11.30 - 12.00 **Driving financial performance** (Lars Vestergaard)

12.00 - 12.20 *Coffee break*

12.20 - 12.50 **Cement market and strategy** (Jan Kjaersgaard)

12.50 - 13.20 **Mining market and strategy** (Manfred Schaffer)

13.20 - 14.10 *Lunch break and casual conversation with management*

14.10 - 14.30 **Digital drives productivity** (Mikael Lindholm)

14.30 - 15.00 **Regional perspective** (Deon De Kock)

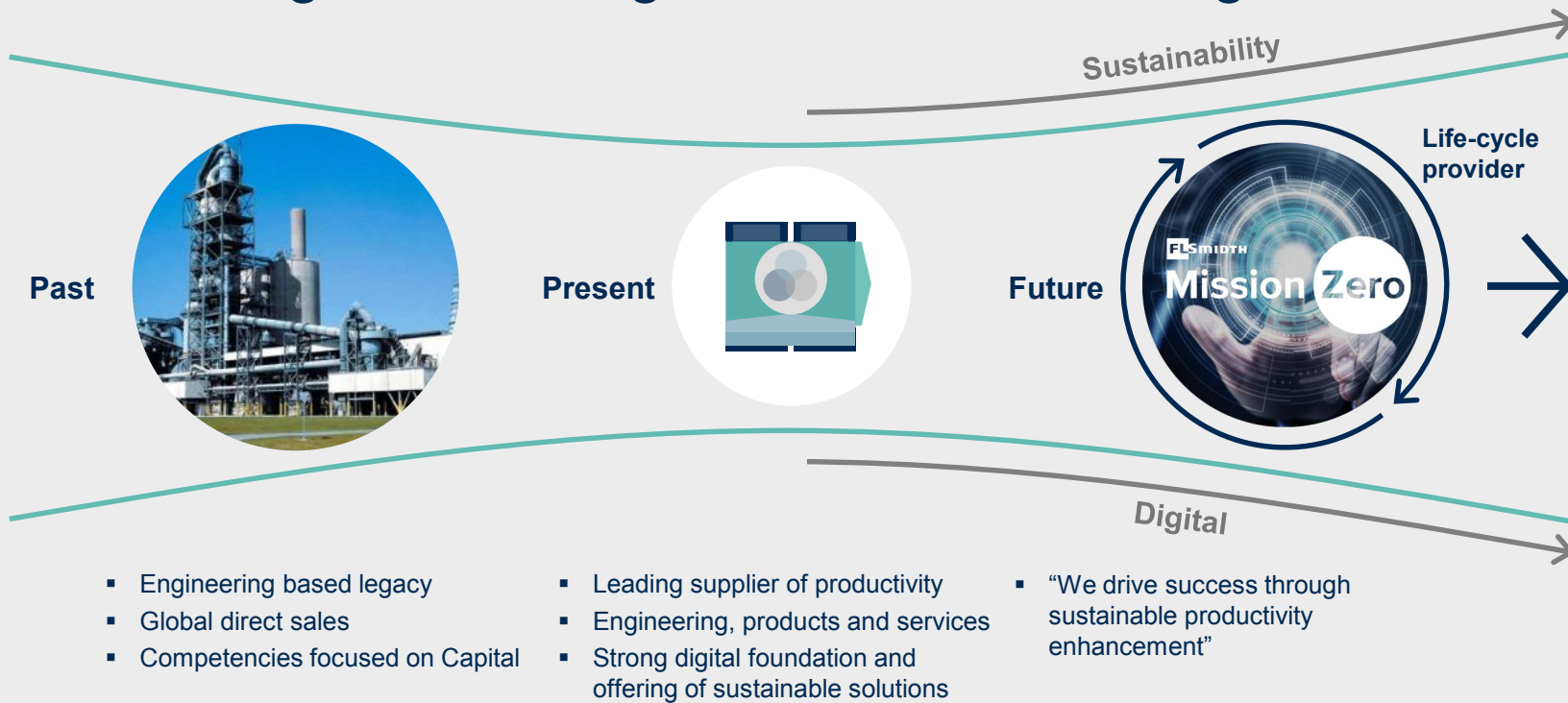
15.00 - 15.15 *Break*

15.15 - 16.00 **CEO wrap up** (Thomas Schulz) and **Q&As** (All)

16.00 - 17.00 *Drinks and casual conversation with management*

A journey to become Productivity Provider #1

Profitable growth through sustainable offerings



Industry trends and drivers



Demand drivers

- Growing wealth
- Rising population
- Urbanisation
- Electrification and renewable energy



'Political barriers'

- Tariffs and subsidies
- Import and export limitations
- Sanctions and embargoes
- Currency fluctuation



Supply trends

- Scarcity of natural resources
- Depleting ore grades
- Increased technical complexity
- More remote locations

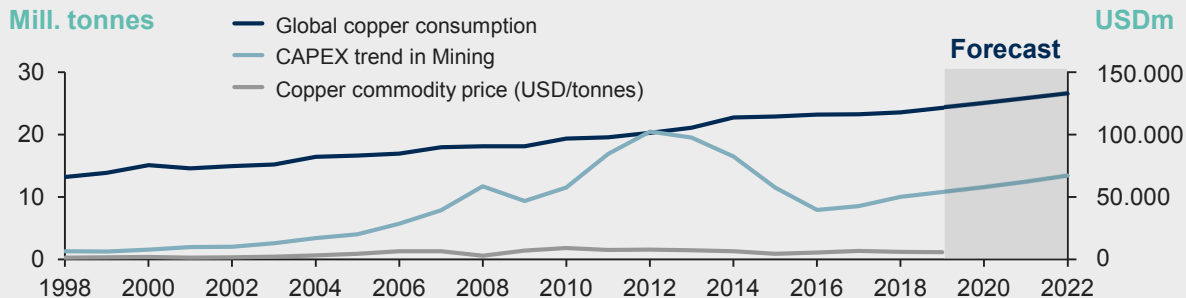


Industry trends

- Sustainability
- Efficiency
- Innovation and digitalization
- Full service supply

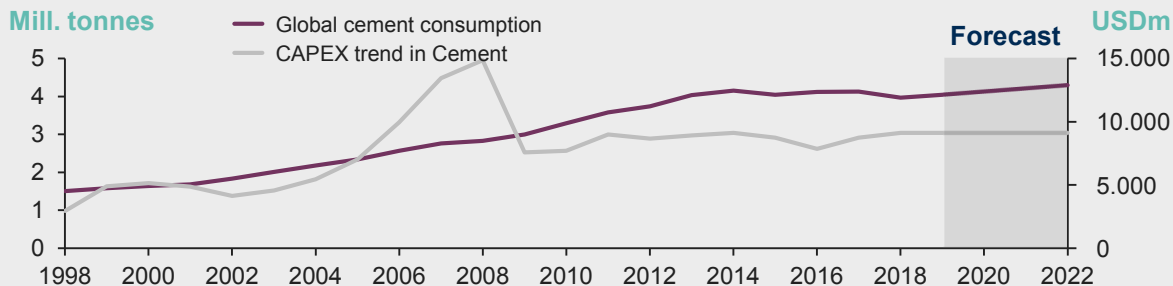
Market outlook

Mining



- Growth cycle
- Declining ore grades
- Focus on sustainable productivity

Cement

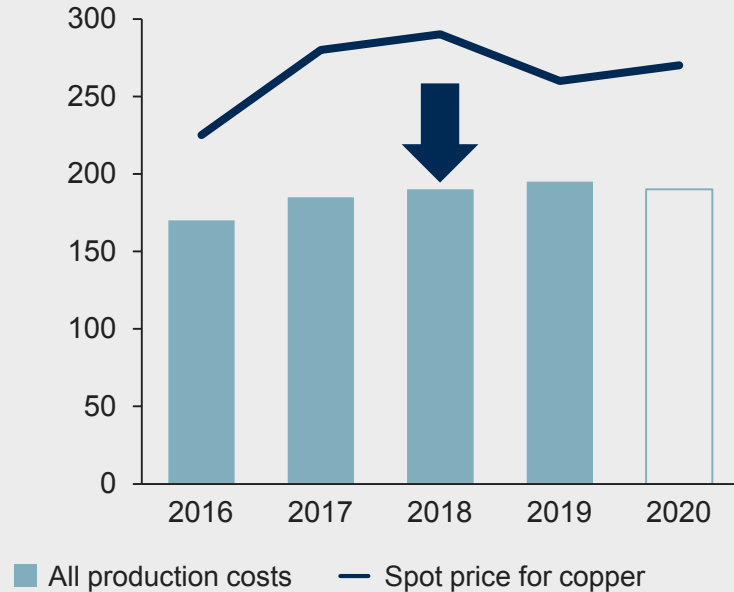


- Modest market growth
- Focus on operations efficiency and reducing the environmental footprint

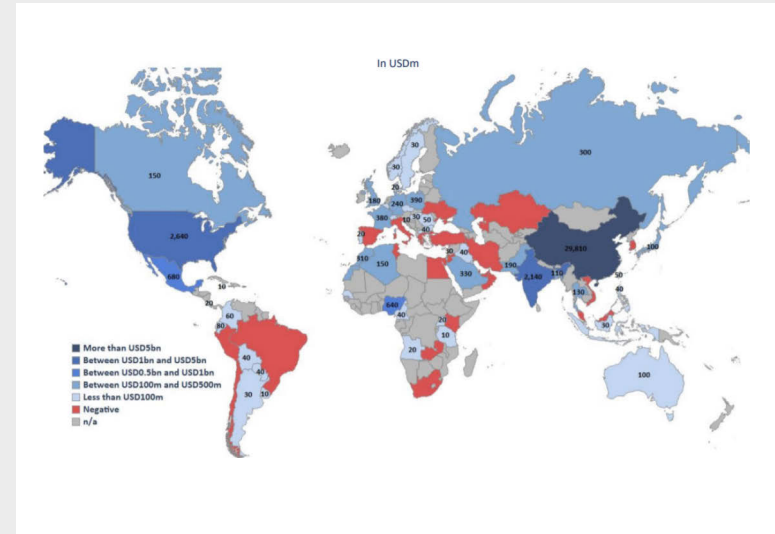
Source: Bloomberg, FLSmidth analysis

Our value proposition

Mining – copper cost curve (US cents/lb)



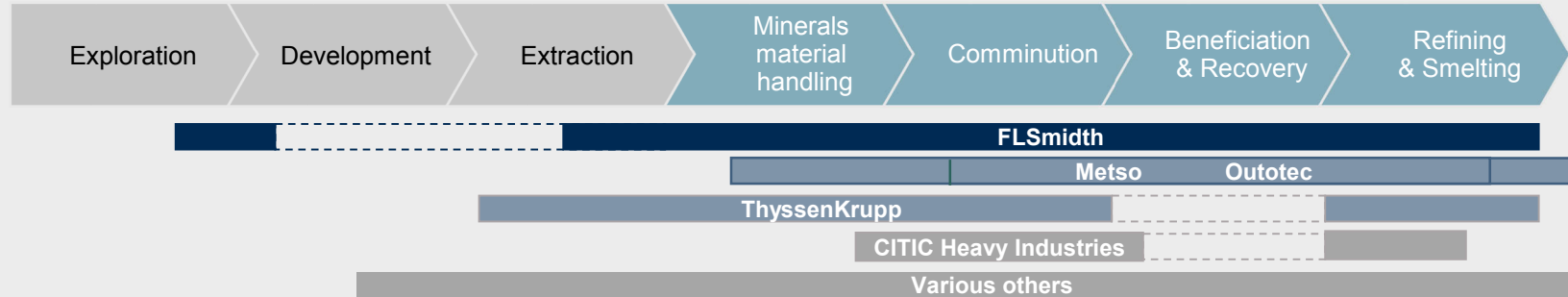
Cement – 2019 Free cash flow



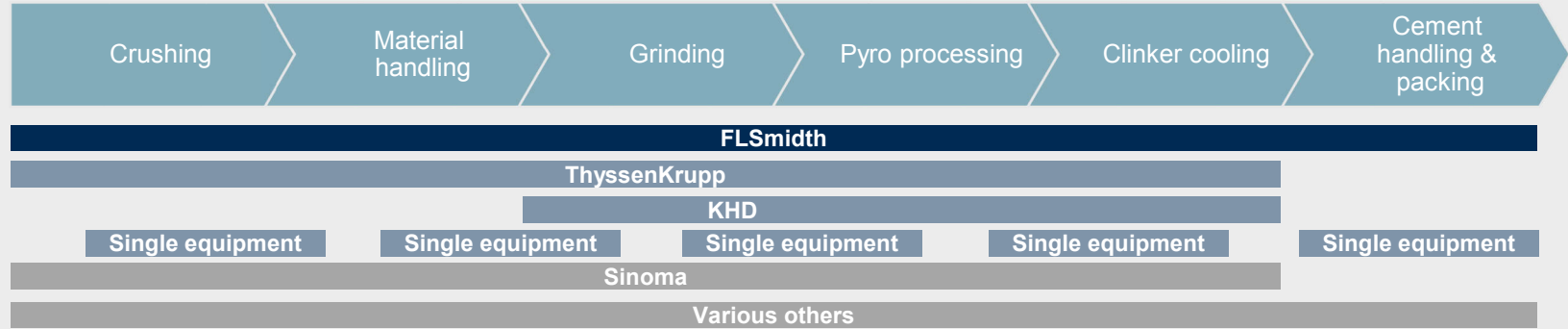
Source: On Field

Competitive landscape

MINING

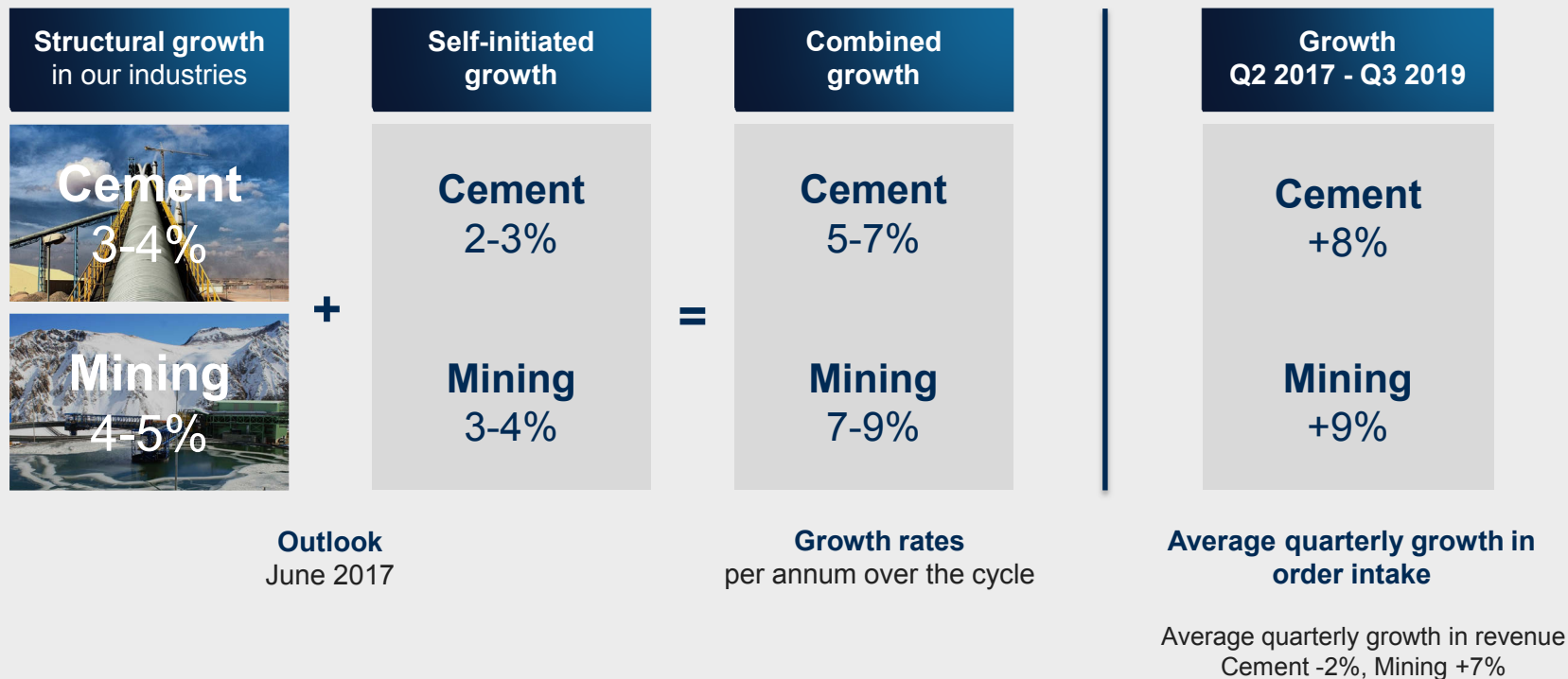


CEMENT

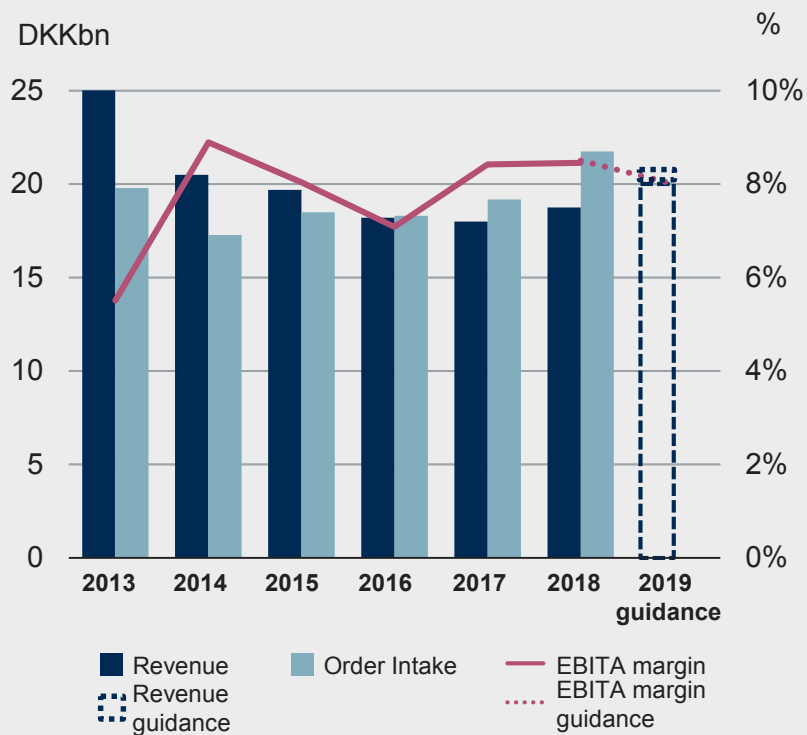


Growth outlook at previous Capital Markets Day

June 2017



Financial performance



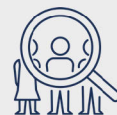
Growth

Selective



Gross margin

Improve



SG&A costs

Under control

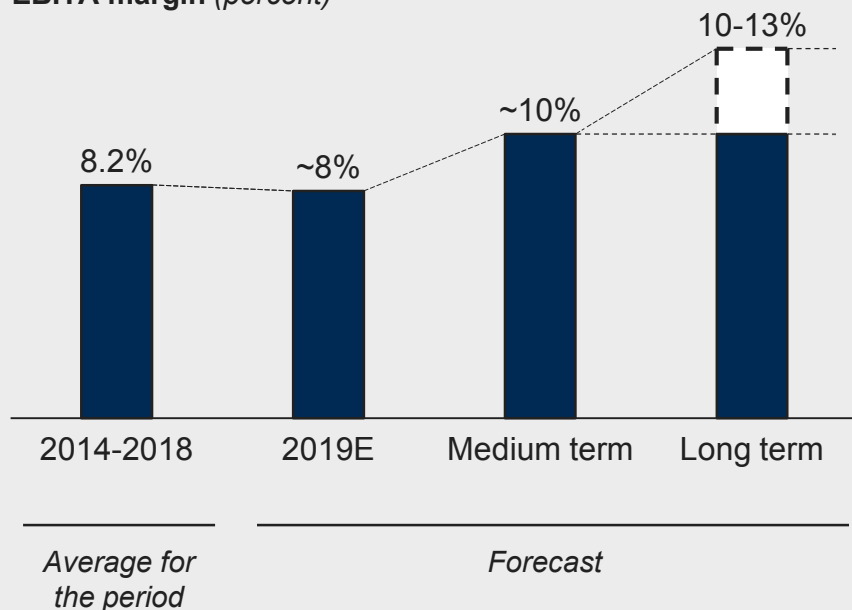


Cash

Focus to keep on track

Margin improvement is expected both medium and long term

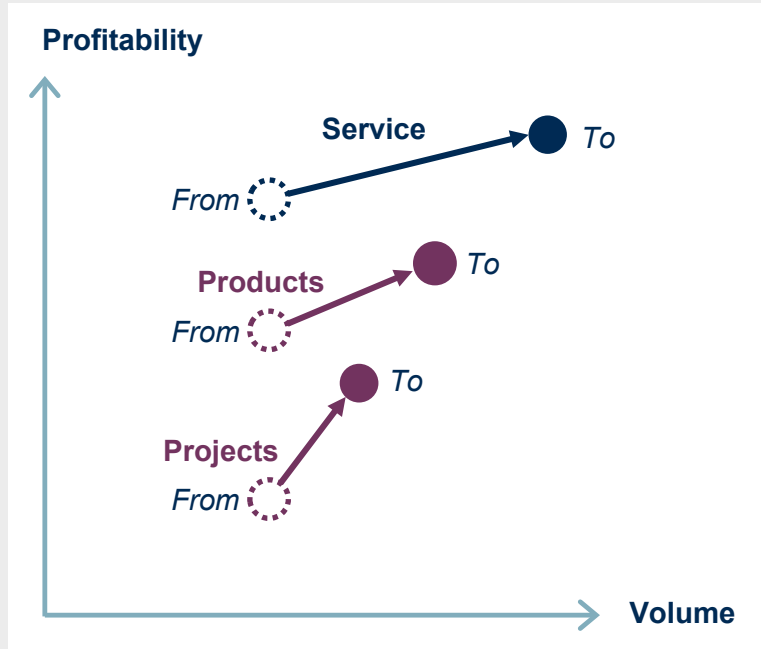
EBITA margin (percent)



- Full-year 2019 guidance of ~8%
- Medium-term target of ~10%
- Long-term target of 10-13% maintained

Strategic focus – sustainable profitable growth

ILLUSTRATIVE



Business model

FLSMIDTH



Organisation



Customers

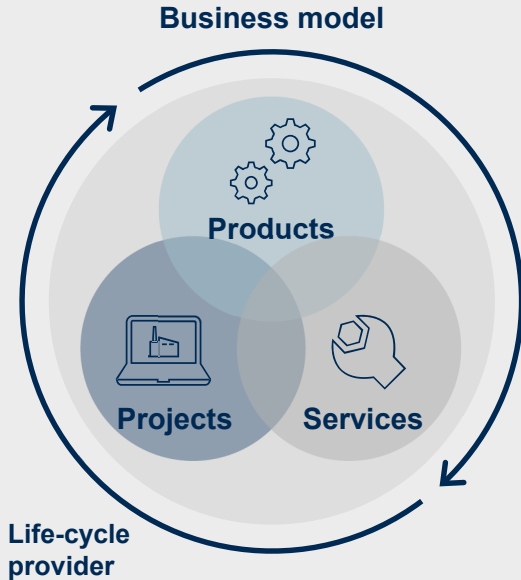
Digitalization

FLSMIDTH
ENABL'R

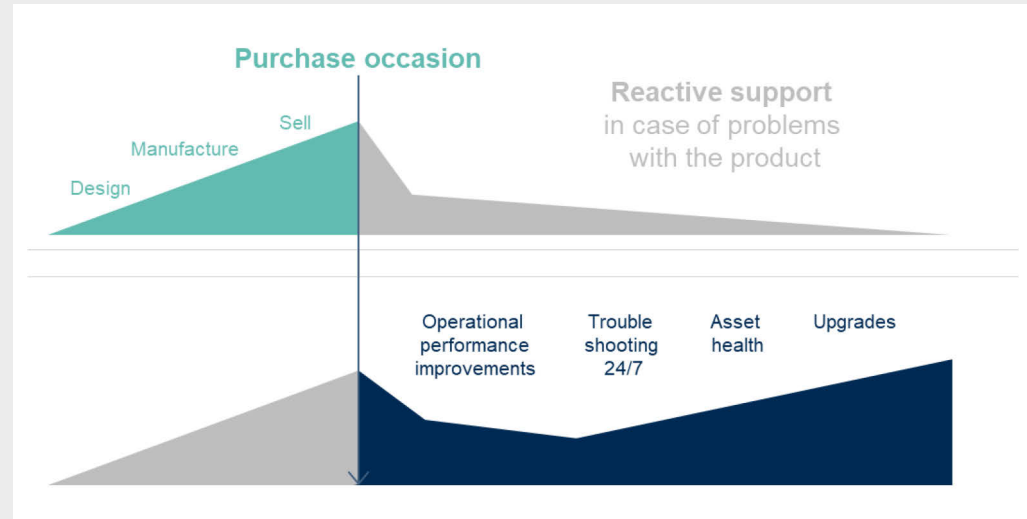
Sustainability

FLSMIDTH
Mission Zero

Our earnings model

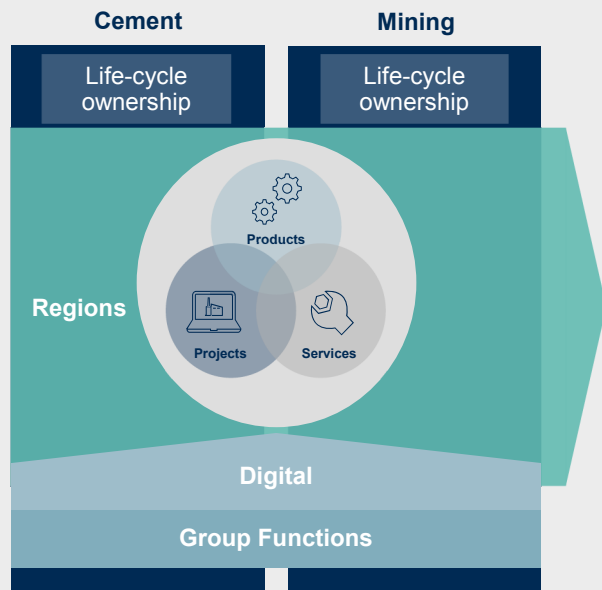


Life-cycle approach



Vision: We drive success through sustainable productivity enhancement

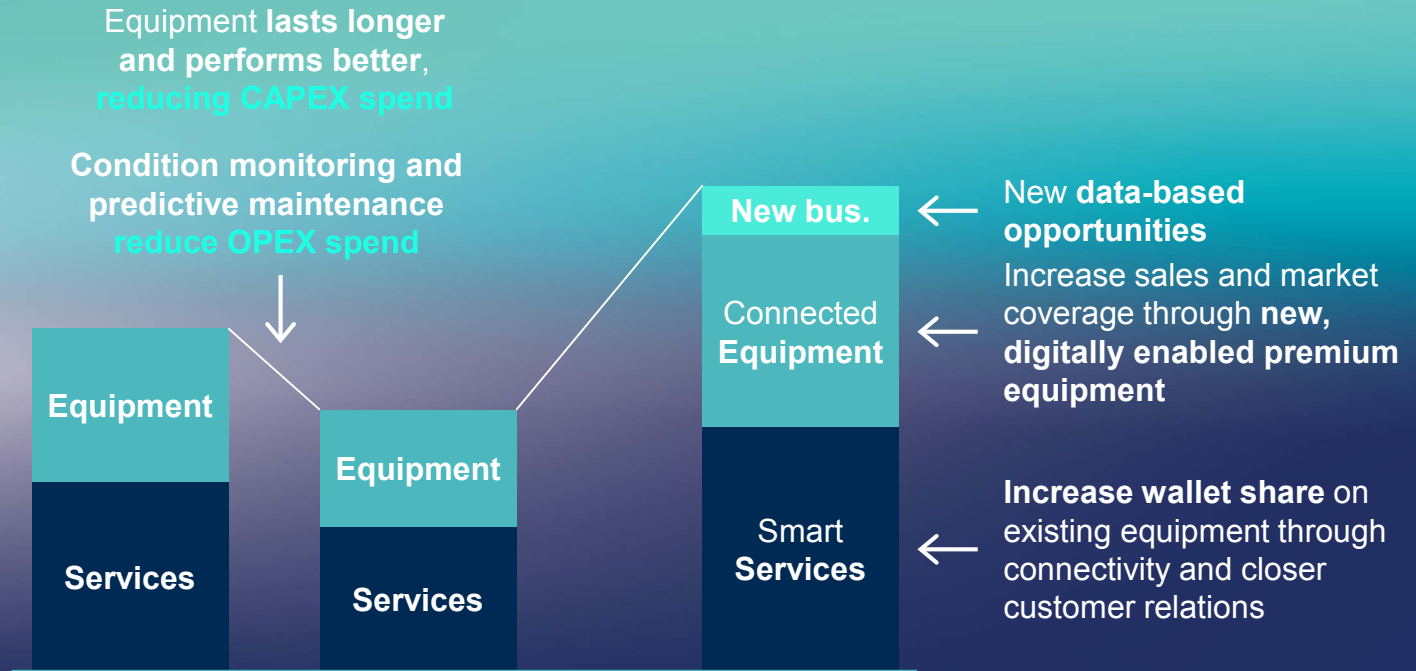
The new structure provides many benefits and highlights opportunities



Opportunities

- White spot targeting
- Better and faster service
- Shorter delivery and quotation time
- Improved wear parts portfolio
- Go-to-market and service based on installed base insights
- Full flowsheet offering to all customers

Digitalization brings large opportunities



Sustainability as a business opportunity

Our impact across the value chain			
	Suppliers	FLSmidth	Customers
Impact	Medium	Small	Large
Ambition	Above industry standards	Above industry standards	Best-in-class
Control by FLSmidth	Partial	Full	Indirect
			Large business opportunity

- **FLSmidth's annual CO₂ footprint** (scope 1 & 2) equals **one month** of operation for an average newer European cement plant (3,500 tpd)
- **FLSmidth's annual water consumption** equals **two weeks** of operation for a copper mine (100,000 tpy)

6 CLEAN WATER
AND SANITATION



7 AFFORDABLE AND
CLEAN ENERGY



12 RESPONSIBLE
CONSUMPTION
AND PRODUCTION



13 CLIMATE
ACTION



We drive success through
sustainable productivity enhancement

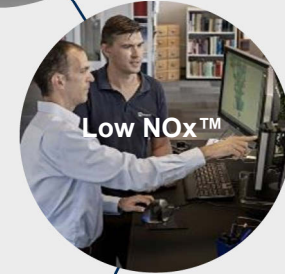
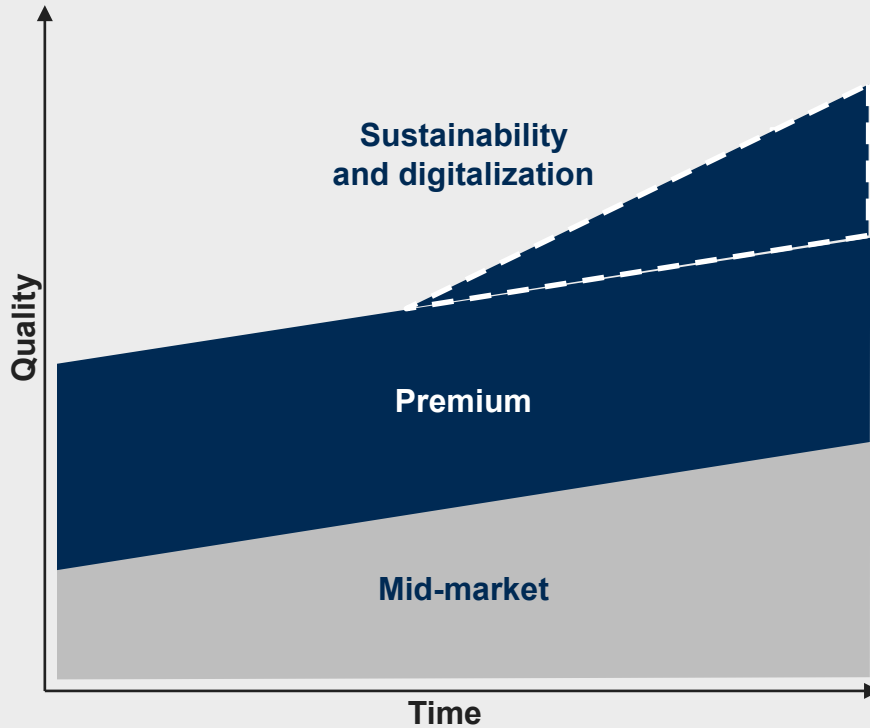
Our sustainable ambition for 2030:

FLSMIDTH

Mission Zero

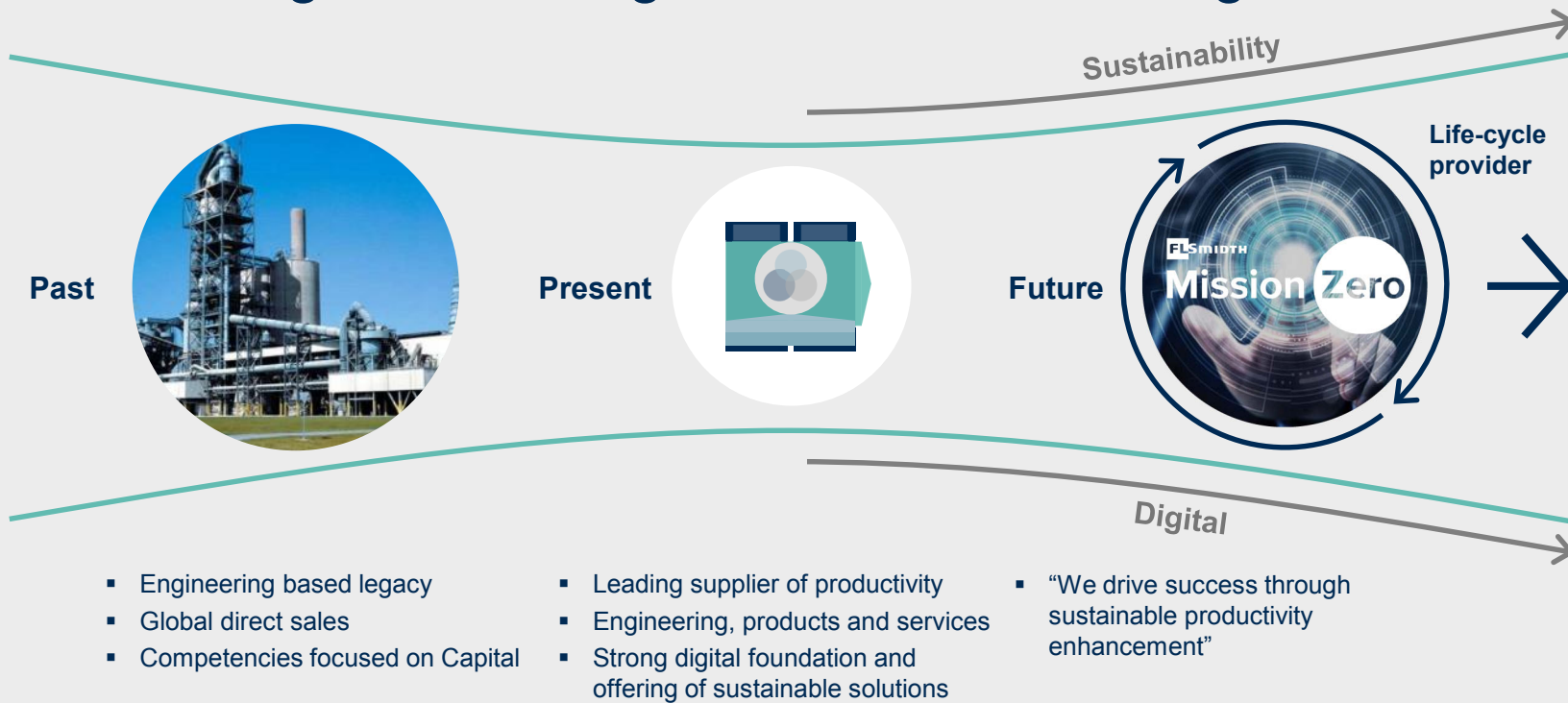
Towards zero emissions
in mining and cement

Sustainability and digitalization expand the gap between premium and mid-market



A journey to become Productivity Provider #1

Profitable growth through sustainable offerings



6 November 2019

Lars Vestergaard, Group EVP and CFO

DRIVING FINANCIAL PERFORMANCE



WE DISCOVER POTENTIAL

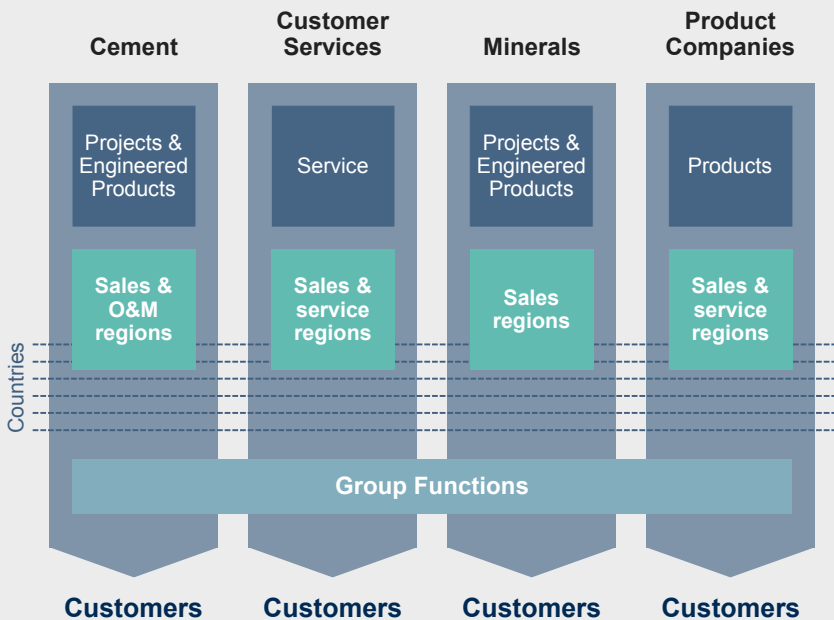
FLSMIDTH

Key messages

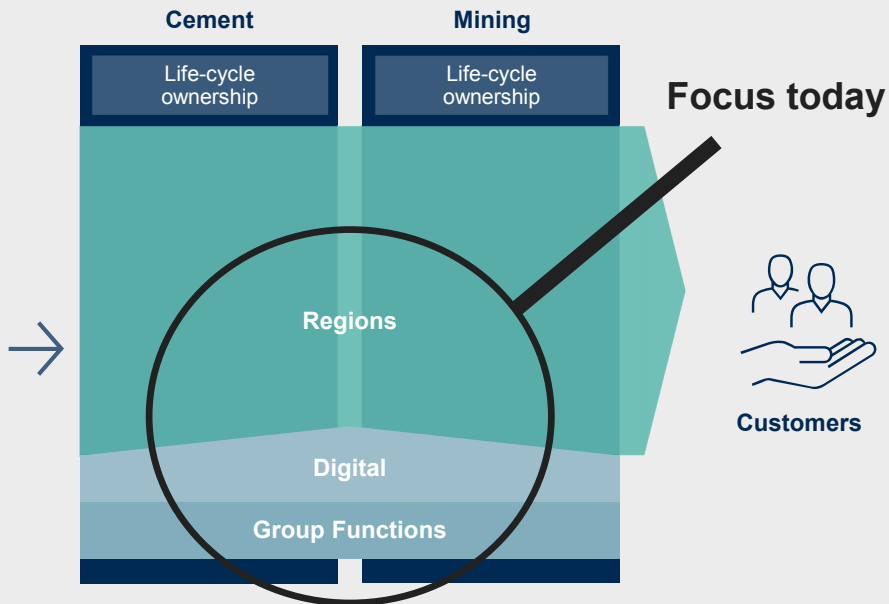
- Enhanced **data transparency** enabling a better assessment of performance in profit and cash
- Driving performance and service growth through **benchmarking across regions and industries**
- Maximising synergies from **simplified footprint**
- Driving **back office efficiency** through global functional cost owners and consolidation
- Strong focus on **cash conversion**

Driving performance through two industries and seven regions

BEFORE – 4 main P/L



AFTER – 2 main P/L



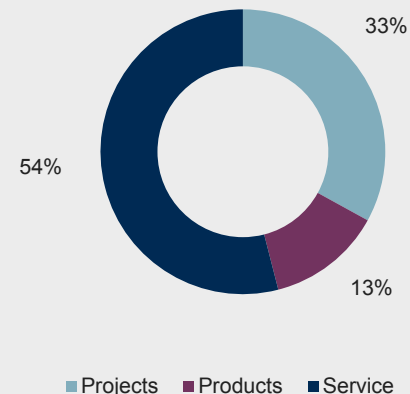
Enhanced data transparency

Better assessment of types of business and implications for profit and cash

Industry ownership of lifecycle offering

Type of business		Gross margin	Working capital
Capital	Projects	Low	Low to negative
	Products	Medium	Medium
Service	Spare parts	High	High
	Wear parts	Medium / High	High
	Services	Medium	Medium
	Upgrade & retrofit		Low

Revenue split YTD 2019

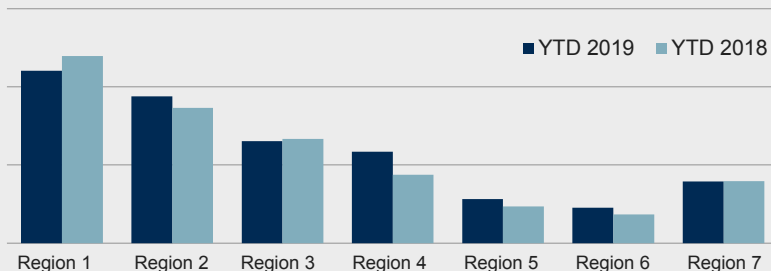


Indications are relative to FLSmidth

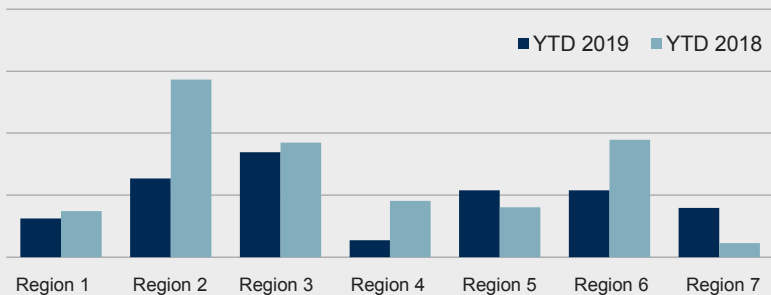
Regional benchmarking

Data to drive service growth in all regions

Service order intake



Capital order intake



Service

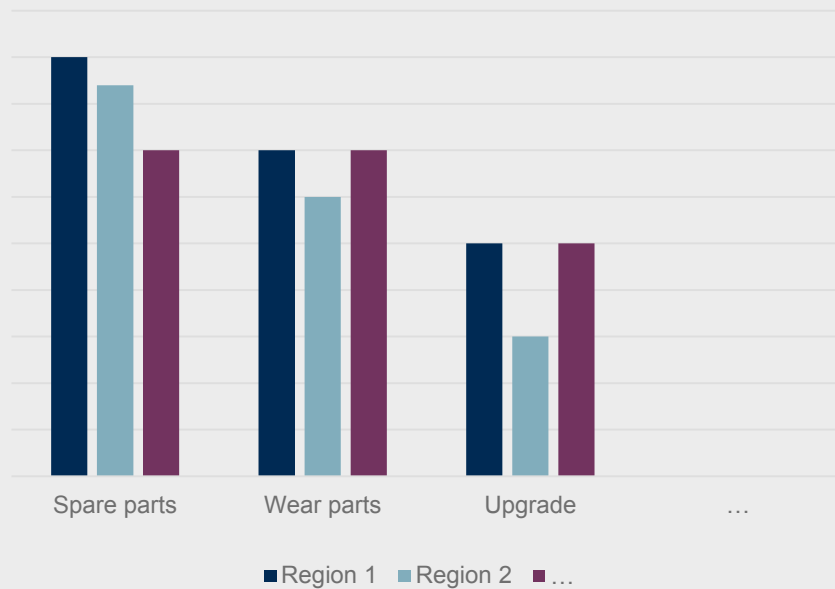
- Grow recurring business
- Targets based on market potential, not previous growth rates
- KPI: Growth in order intake

Capital

- Growth targets based on hotlist and potential
- Industries provide global pool of resources for project execution
- Product line management centralised in industries
- Profit above growth in Cement

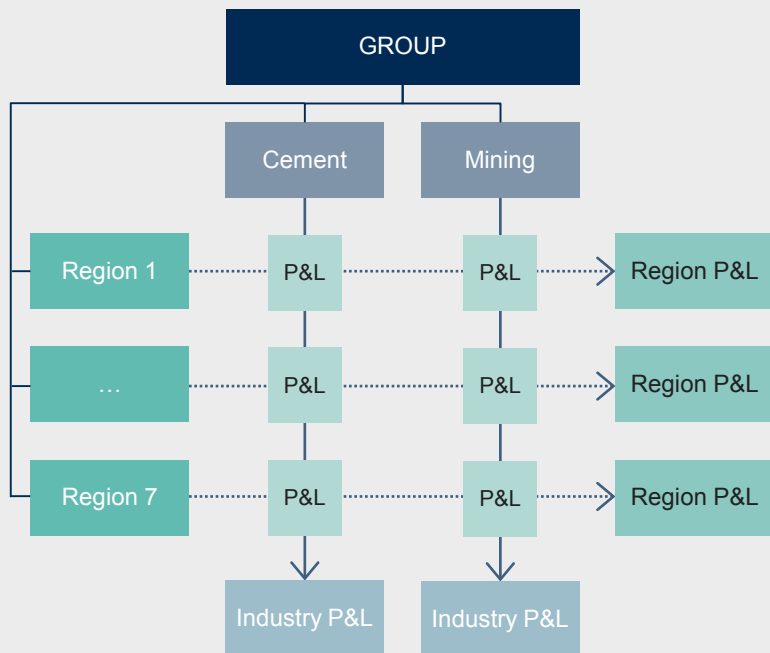
Benchmarking contribution margins across regions

Contribution margin (illustrative)



- Contribution margins are split into six order types on both revenue and order intake (Backlog)
- Ability to benchmark contribution margins across regions by order types
- Mix impacts can be eliminated in performance management discussions
- Regional difference can be used to improve and learn from each other

Benchmarking across regions and industries



Main KPI Group / Industries

- Order intake
- EBITA
- CFFO / NWC

KPIs sales regions

- Order intake by industry
 - Service
 - Capital
- Business result (excluding global costs)
- Regional SG&A cost
- CFFO / NWC

Procurement focus areas to support offering types

Leveraging category management and efficiency from global structure across both industries

Product line procurement

- Support PLM in standardisation and modularisation of products
- Shared components, uniform quality and shorter lead times
- Agile and flexible supply chain incl. manufacturing for fast response

Project management procurement

- Early involvement in sales phase
- Coordinated purchase, logistics, expediting and quality control
- Efficient use of local regional low cost sourcing for steel structures etc.
- Leveraging of Product line procurement for fast track of long lead items

Aftermarket procurement

- Speed
- Regional suppliers for engineered parts and global for repetitive parts
- Pricing models
- Distribution centers for standard spare- and wear parts

FLSmidth Qingdao assembly center

Strategic location to serve global customers with competitive quality products, spare- and wear parts and improve DIFOT

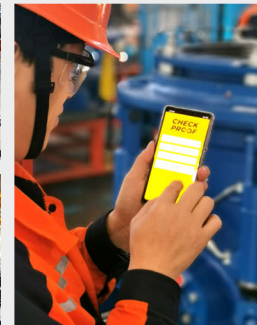
More than 30 strategic Mining and Cement products with associated spare- and wear parts have been moved to Qingdao with new developed supply chain and BOT automation

Synergies from simplified footprint

Consolidate assembly into centres in China and India

Enhance external supplier and distribution network

Consolidate regional footprint



Higher efficiency through Digital



Product knowledge

+



Connected products

+



Advanced analytics



Better, data-driven sales leads



Better forecasting & prediction of required parts



Higher share of wallet



Lower inventory



Higher efficiency through Digital



More automation
= higher efficiency
= improved quality
= better compliance

- Processed 10,000 purchase order lines per month (20% of total lines) in October 2019
- Average TAT (turnaround time) for converting requisition to purchase order is < 12hrs
- Average process time to create a PO is between 5-14 minutes

Driving efficiency in back office

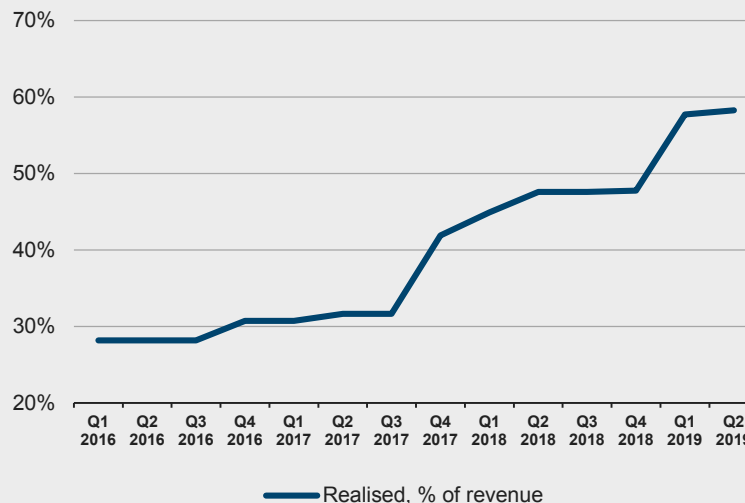
Global functional cost owners

- Optimise across region, industry and Group
- Drive structural improvements
 - Shared services
 - Centres of excellence
 - BOTs

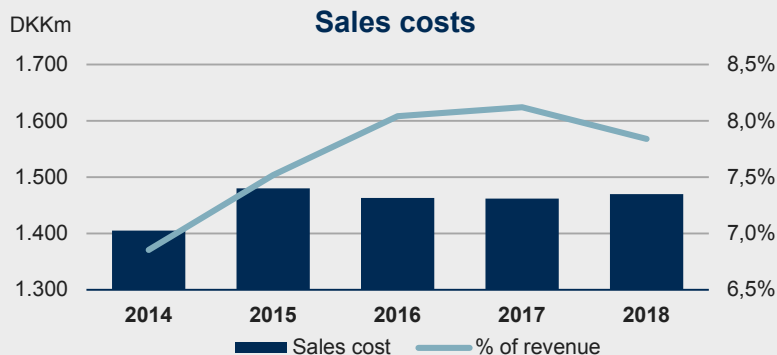
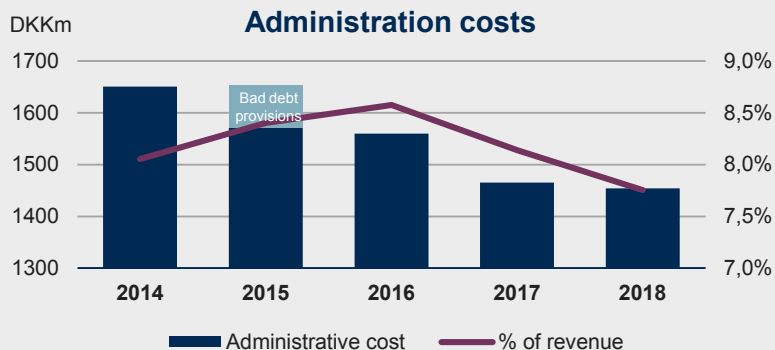
Regions

- Consolidate ERP in regions
 - E.g. North America: 6 into 1 (2 more in 2020)
- Consolidate skills into regional HUBs

Core ERP coverage of FLSmidth entities



SG&A managed tightly throughout the organisation



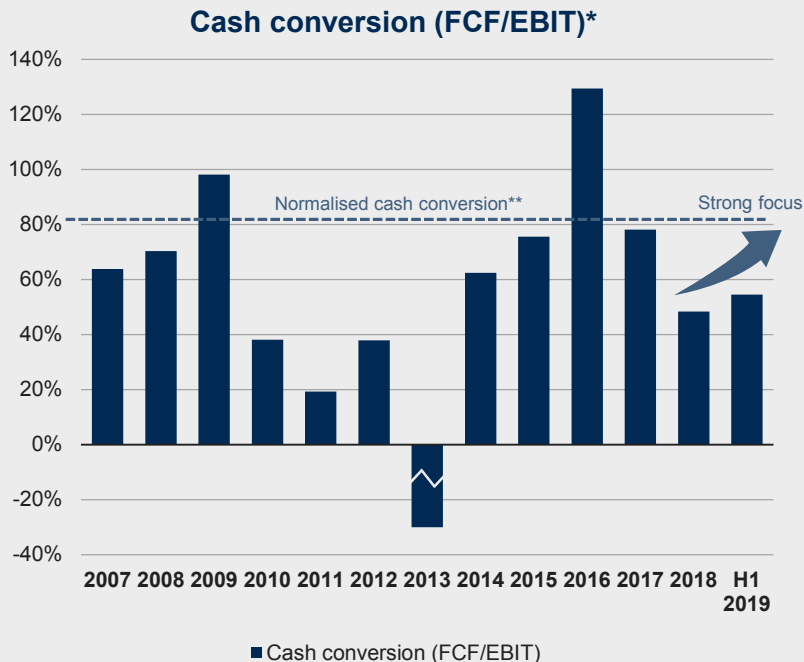
Administration costs

- ↑ Increased investments in digitalization
- ↑ ↓ Common ERP enables more shared services
- ↓ Ambition to manage independently of revenue in growth periods
- ↓ Site consolidation a substantial enabler

Sales

- ↑ Continued white spot investments
- ↓ Industries to provide technical sales support to regions to enable scale benefits
- ↓ Shared service centre drives efficiency in sales support

Strong focus on cash conversion



- We delivered strong cash generation during the mining downturn (2014-2017)
- 2018 was an exception, partly due to our sold-off bulk material handling business
- We are committed to continuing the strong track record of high cash conversion
- Our target is to keep CFFI at or below the level of depreciations and amortisations less IFRS 16 leases and purchase price allocations

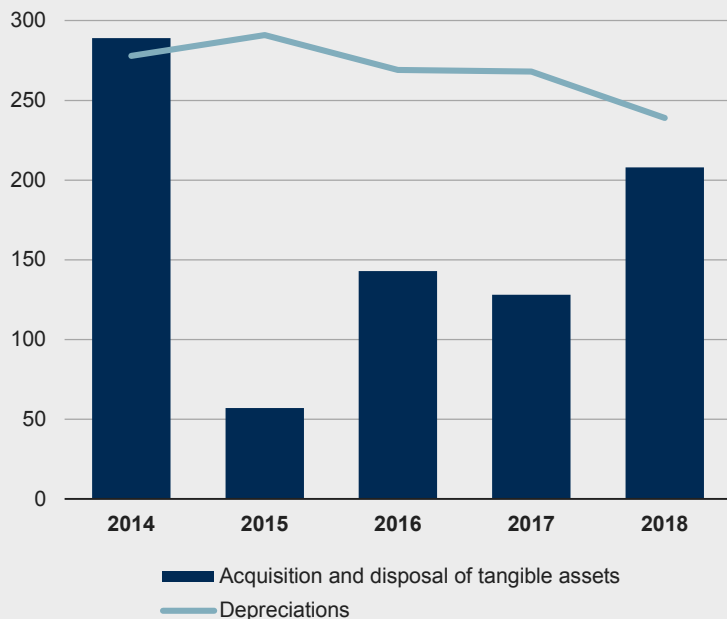
* Continued business only from 2015 and onwards

** Average cash conversion 2014-2018 adjusted for change in net working capital and provisions

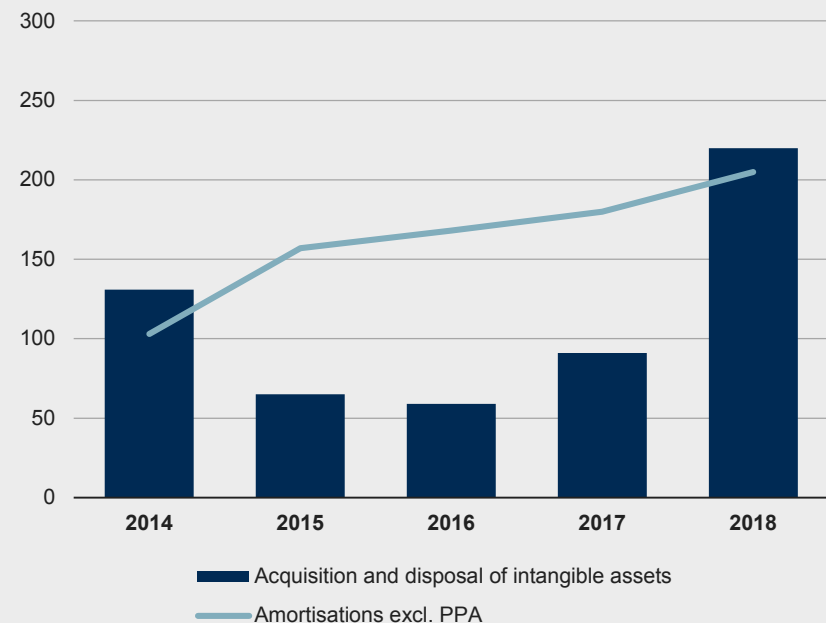
Depreciations and amortisations

Low share of in-house manufacturing – target to keep investments below D and A

DKKm **CFFI and Depreciations – Tangible assets**

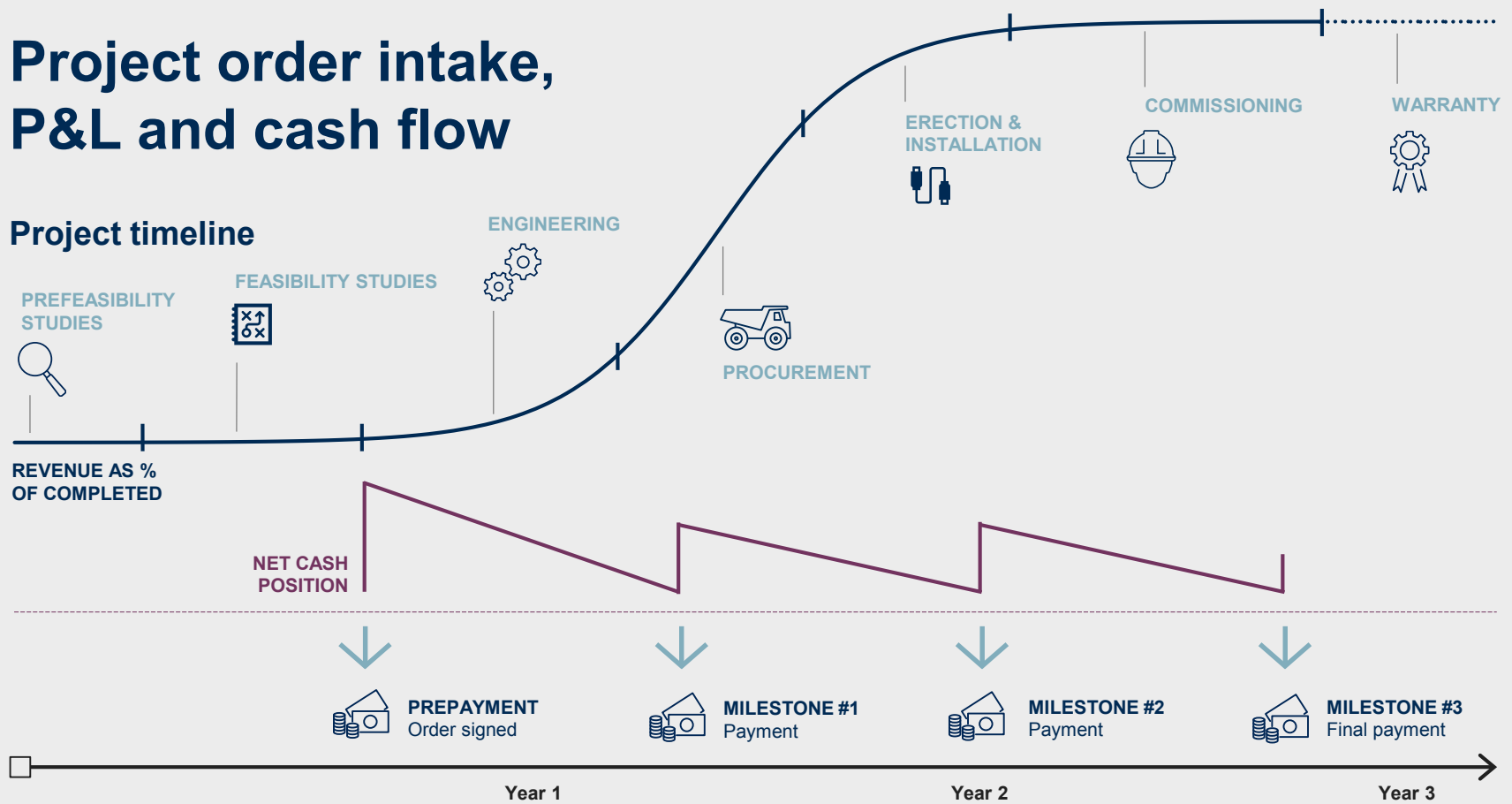


DKKm **CFFI and Amortisations - Intangible assets**

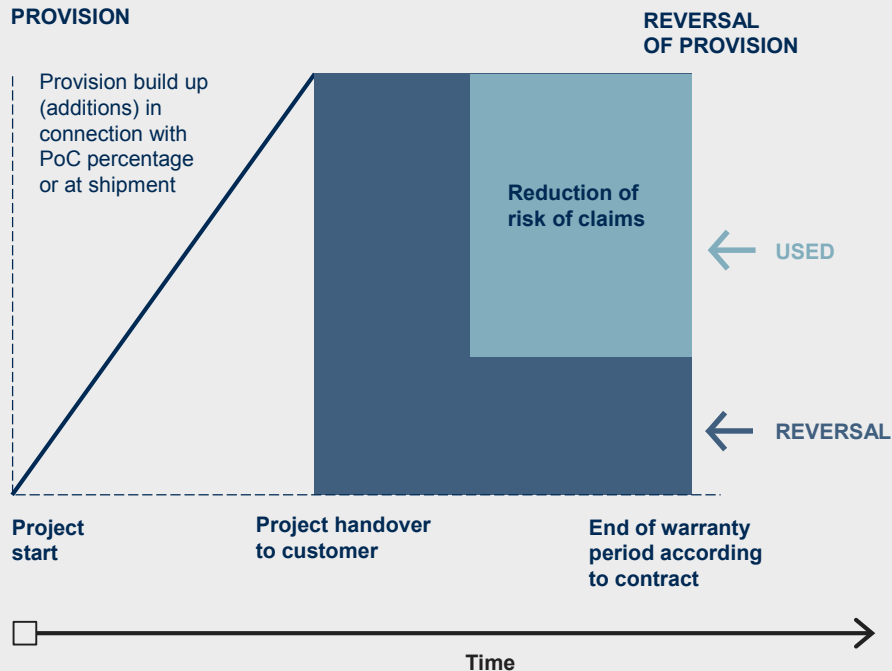


Project order intake, P&L and cash flow

Project timeline



Lifetime of a warranty provision



Warranty provisions

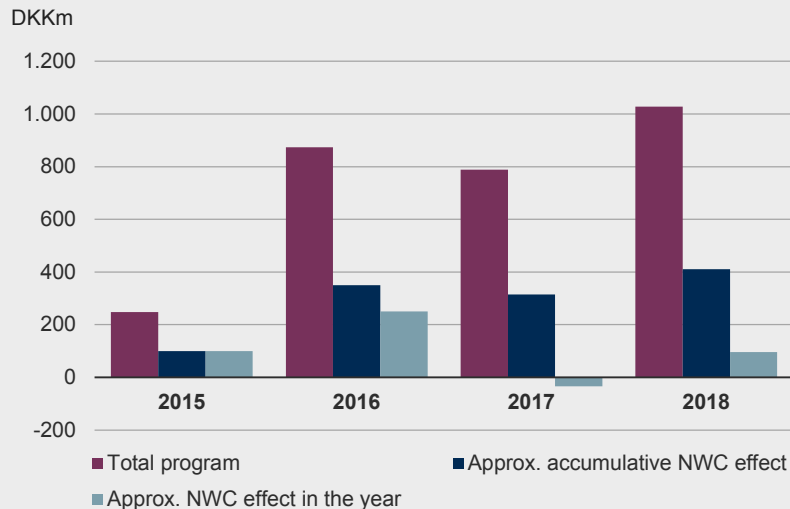
- Estimated based on historical realised costs
- **“Additions”** based on percentage of completion for projects and at shipment for invoicing principle (proportional to revenue)
- **“Used”** is independent of current revenue and based on claims for finalised projects
- **“Reversals”** are independent of current revenue and based on expiry of warranty period

Other provisions

- For example disputes and tax risks
- Build up when risk occurs

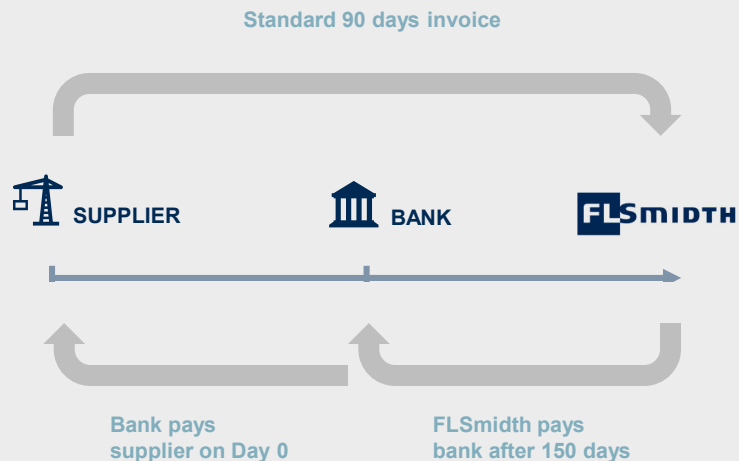
The benefits of supply chain financing

Supply chain financing



- The effect on trade payables (net working capital) from the SCF program is calculated daily and included in FLSmidth's liquidity buffer

Example:

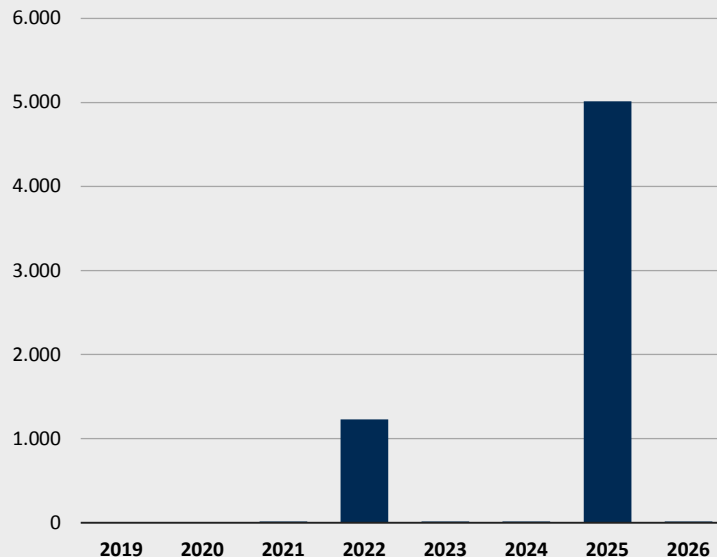


- Industry standard
- Loyalty programme with core suppliers
- Extended credit at no cost
- Utilising the difference in credit quality

Strong maturity profile on debt facilities

- Primary funding facility is a DKK 5bn RCF from Core banking group:
 - Danske Bank, Nordea, HSBC, Handelsbanken, Commerzbank and BNP
- Extension options (2 times 1 year)
- Strong support from core banking group and other banks
- Pari passu amongst banks

Maturity of funding facilities



The road to higher profitability

Q3

- Mining project cost overruns of DKK 70m
- Lower margin in mining backlog
 - DKK 120m in 2020 or 1% on mining EBITA
- Under absorption

Activities to bring EBITA back on track

- Consolidate project execution into HUBs
- Business improvement initiatives
- Service growth
 - Order intake is DKK 450 higher than revenue

How do we get to higher EBITA margins?

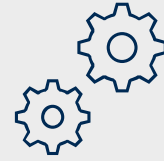
- Prioritise service growth
- Mining capital margin
- Grow topline

- Operating leverage (manage SG&A)
- Efficiencies (footprint and scale)

Key highlights



Enhanced data transparency



Efficient back office



Footprint optimisation



Driving performance through benchmarking



Focus on cash conversion

6 November 2019

Jan Kjaersgaard, President Cement

CEMENT MARKET AND STRATEGY

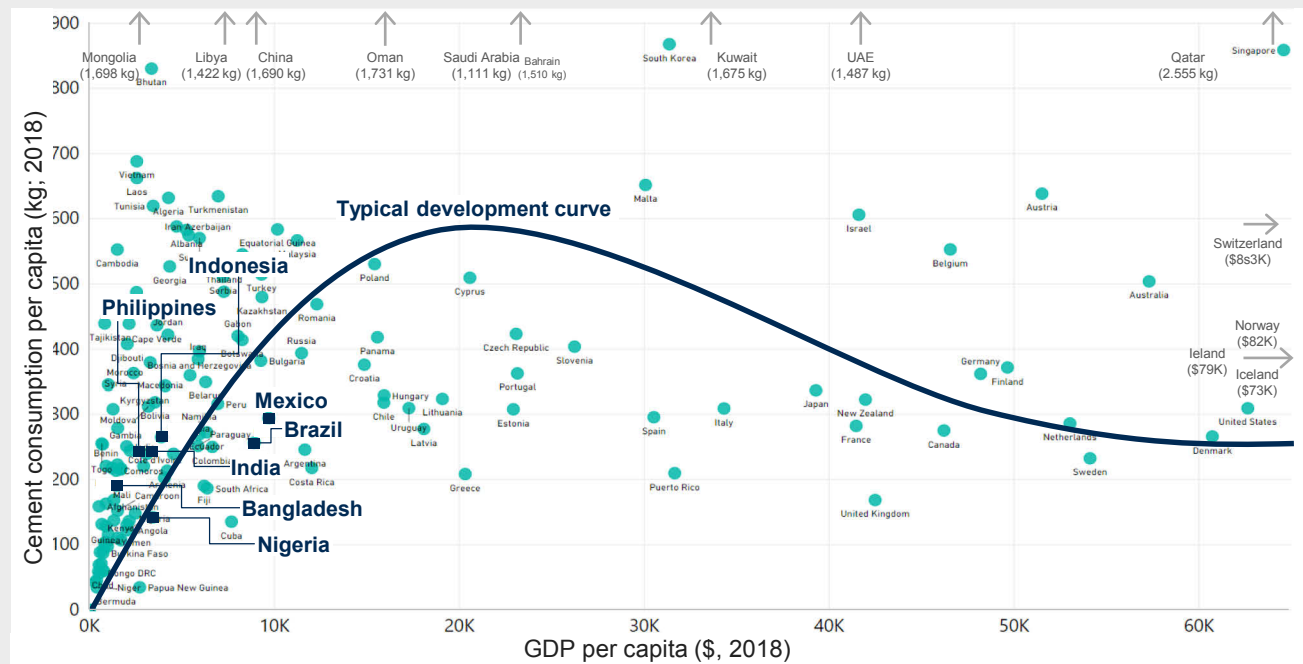
WE DISCOVER POTENTIAL

 FLSMIDTH

Key messages

- The market provides underlying **stable growth in cement demand** driven by GDP growth, urbanisation and infrastructure investments
- **Industry transformation** from traditional stand-alone technologies to **fully integrated, digitalized manufacturing** to optimise cash, profitability, labour intensity and to cope with **sustainability** demands
- FLSmidth in strong position as **Productivity Provider #1** to address industry need for integrated sustainability and digitalization solutions
- The strategy to grow Service, Upgrades and Products – and a selective focus on premium Projects – will drive a **more stable and higher-margin portfolio** with a larger service share, **profit above growth**

Cement is fundamentally an attractive industry

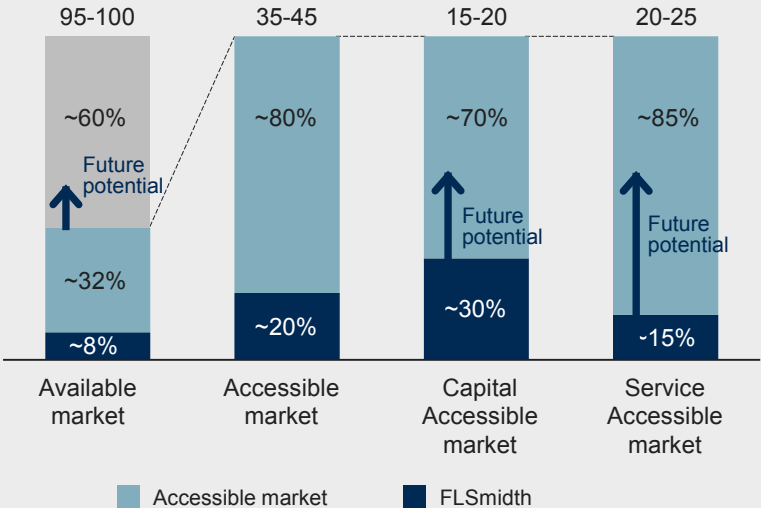


Note: Highlighted countries are illustrative examples of potential growth and do not represent a particular analysis; Some countries omitted due to small size
 Source: Global Cement Review; Global Cement Directory; World Bank; OnField Research; FLSmidth analysis

- Most emerging markets still have a **consumption level significantly below the peak**
- **Economic and political factors** influence the timing and location of market activity

FLSmidth has a good opportunity to grow – particularly in Service

Cement Projects, Products and Service available market estimate (2018, DKK bn)



- Large untapped accessible market in Parts, Services, Upgrades and Retrofits – both on own and competitor installed base
- Potential to maintain market share in projects and capture more product opportunities
- The demand for sustainability solutions is a potential for FLSmidth entering into new markets with customers that are today not part of the accessible market

Note: Capital incl. Projects and Products; Service incl. Spare parts, Wear parts, Services, Upgrades and Retrofits; Accessible market definition varies by segment and is on a high level based on Western suppliers in capital and FLSmidth + portion of competitor installed base in Service. Source: FLSmidth analysis

Industry trends with strong focus on sustainability

Historical **capacity expansion** has led to **regional overcapacity**

+

Surplus capacity has resulted in regional pressure on **cement prices and margins**

+

Increased difficulties in **attracting skilled labour and talent**

+

Ongoing and increased **focus on sustainability** from regulators, societies and investors

Selected elements Cement strategy

Strong focus on
**cash and
profitability**

through

**productivity
sustainability and
digitalization**



Service

- Integrated lifetime offerings
- Customer proximity through strong regions



Capital

- Boost products by configure-to-order and sustainability
- Selective approach on premium projects



Sustainability

- Clear ambition to drive the cement industry towards carbon-neutrality and zero emissions

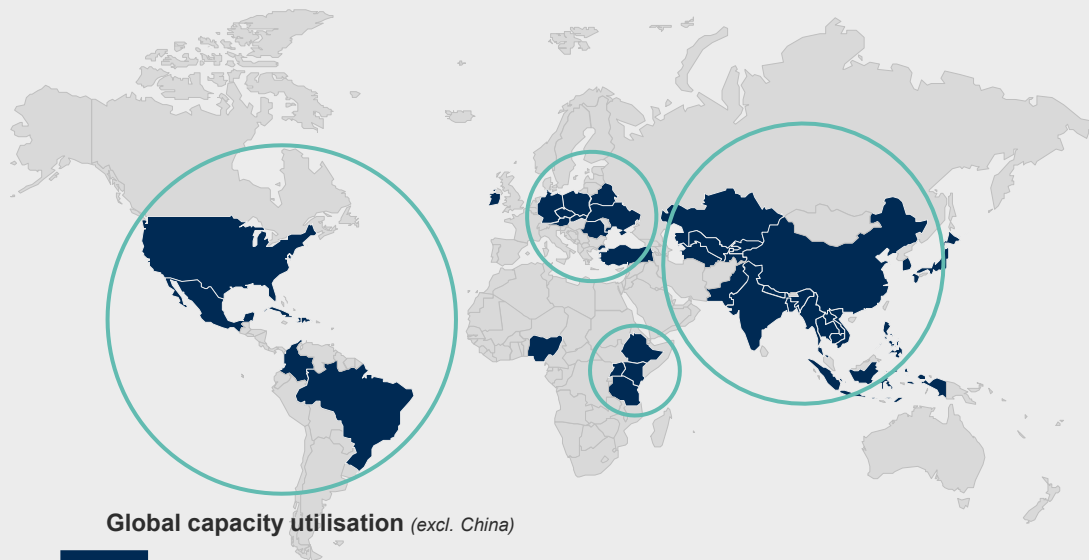


Digitalization

- Condition monitoring facilitating intelligent preventative maintenance, data analytics and process optimisation

Service: Multiple regions with high activity create a solid business potential

INDICATIVE

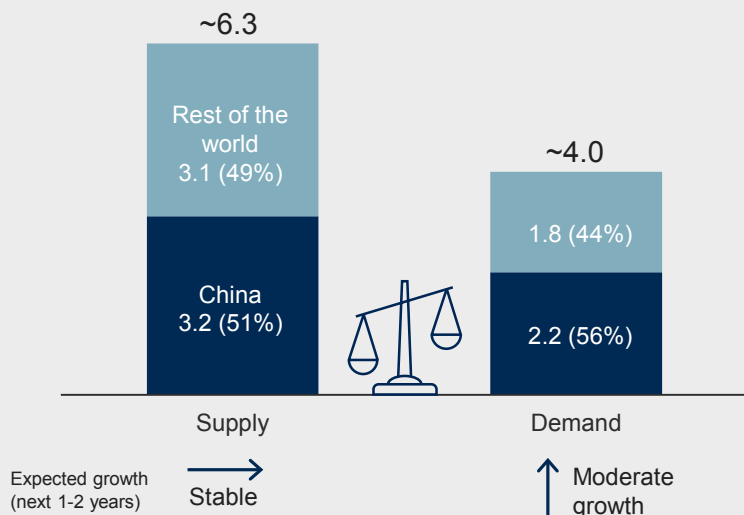


Source: FLSmidth analysis; OnField Research; CW Research

- **India, CIS and Southeast Asia** will be a growth engine with strong activity
- Modest demand growth and high utilisation levels in parts of **Europe** and **Americas**
- **Sub-Saharan Africa** likely to become more active through Chinese 'One Belt One Road' investments
- Our **regional setup** provides closer **customer proximity** and white spot coverage

Capital: Larger projects driven by local dynamics, products also by sustainability and productivity

Cement production vs. demand (2018, bn tons)



Cement demand

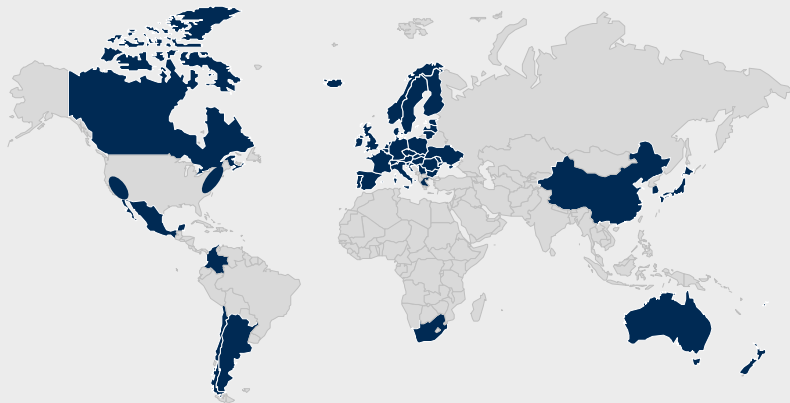
- Overall, **moderate demand growth** is expected short-term, with some **strong geographical pockets**
- Political and economic uncertainty** impact investment appetite in construction and infrastructure
- The increase in demand is expected to lead to **regional cement price increases** – improving appetite for capital investments

Opportunities for capital:

- Investments in new capacity projects are expected in **select geographical pockets**
- The products business is supported by projects, need for **replacements in the installed fleet** as well as **sustainability-driven impacts**

Sustainability deep-dive: Regulations and CO₂ allowance prices are ramping up

Many countries already adopting carbon tax or emission trading schemes



■ ETS and/or carbon tax adopted or scheduled

Source: World Bank carbon pricing dashboard; Markets Insider

EU: Surge of CO₂ allowance price can create a large extra cash cost for cement production

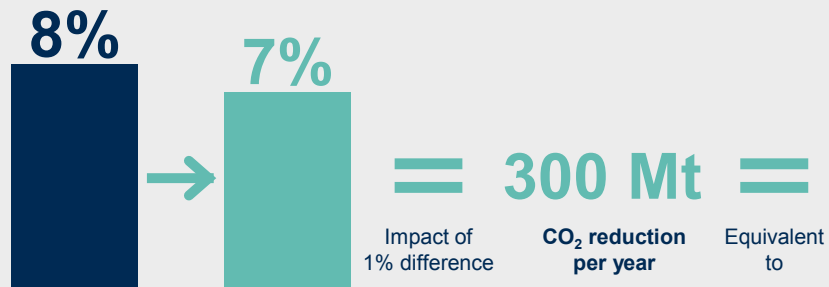


1t of cement produces 600-700kg CO₂

→ 17EUR additional cash cost today for each ton of cement

Potential environmental and business impact

What if the cement industry would reduce its CO₂ footprint by using FLSmidth equipment and solutions?



Global CO ₂ footprint	
2.6bn t/year	2.3bn t/year
CO ₂ emissions per ton of Cement	
600-700kg	500-600kg

Cement industry share of global CO₂ emissions

DIRECTIONAL



485,000

km² of **forest** could absorb = an area larger than **Germany**



258M

households' annual electricity use powered by fossil fuels

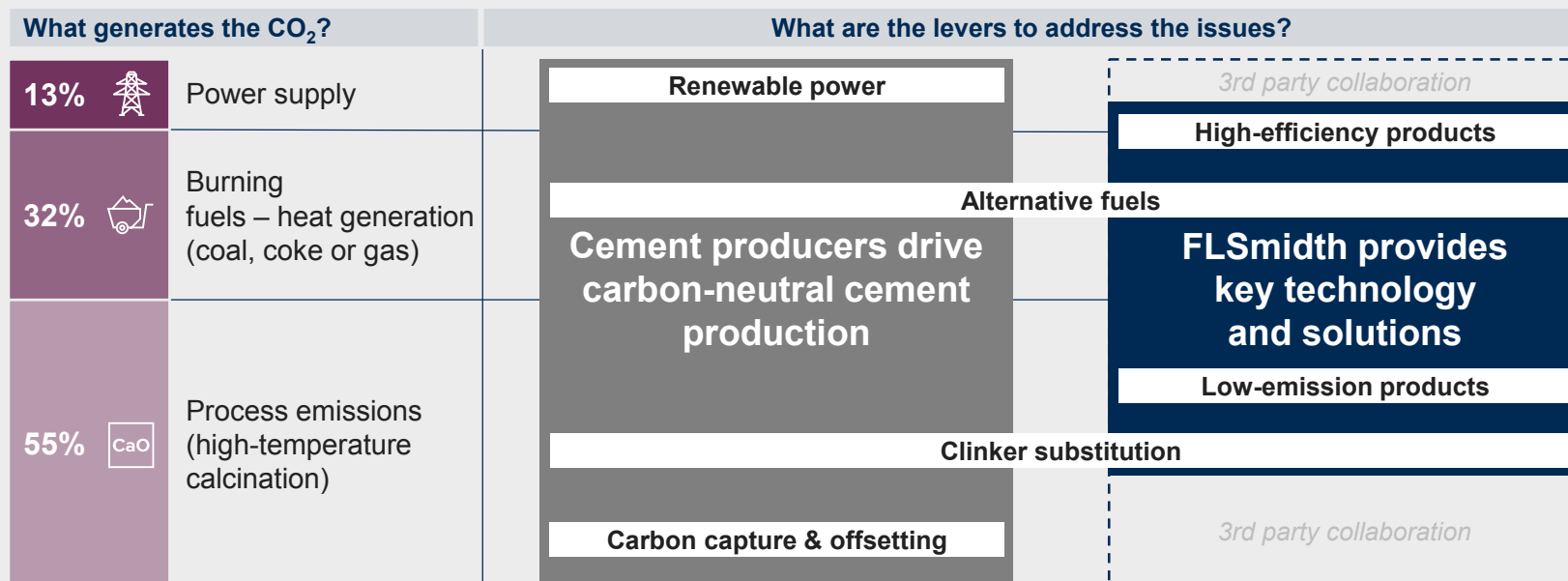


DKK 40m

annual savings on CO₂ spend in a 6,000 tpd cement plant

Our main sustainability ambition in Cement is to enable our customers to become carbon-neutral

How could a cement producer become carbon-neutral?





FLSmidth portfolio strongly supports the sustainability ambition

Calciner upgrades/ replacements, incl. ow-NO_x calciner, SCR solutions, SNCR, filter conversions, forthcoming technologies

Emissions



Hot disc, bypass & dust washing, AF handling/ dosing/ storage/ drying, ash compensation, forthcoming technologies

Alternative fuels



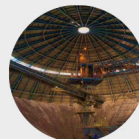
Sustain-
ability

Efficiency



Energy efficiency

Grinding systems, coolers top cyclones, burners, fan upgrades, power efficiency upgrades in other key equipment



Clinker substitution

Clay calcination, blending systems



Process optimisation

Automation upgrades, robotised labs, remote monitoring

Sustainability drives business opportunities for FLSmidth in all business areas

Upgrades

- Reduction of carbon and other emissions is a significant business opportunity requiring integrated upgrades and retrofits

Products

- Increased focus on work environment generates business in packaging and filtering
- Energy efficiency and process optimisation supports most product lines including digital solutions and automation

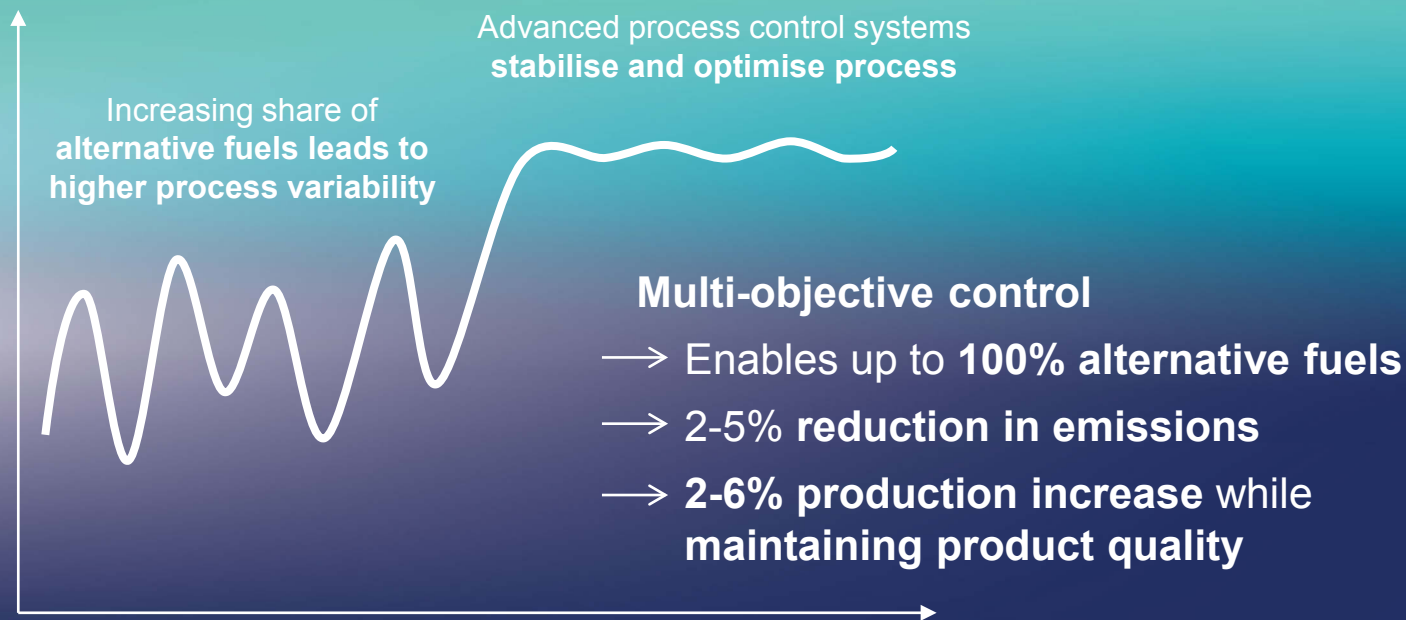
Services

- More advanced operations require intelligent preventative maintenance and spare part solutions for the full plant
- Remote monitoring, data analytics and process optimisation

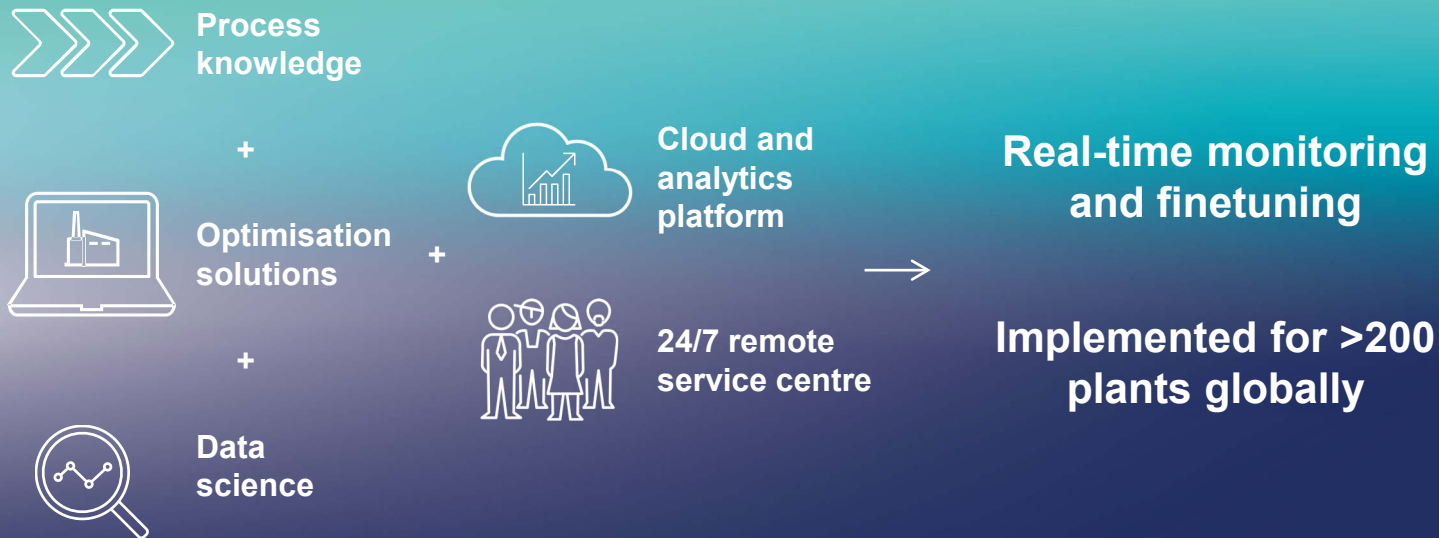
Projects

- More demanding environmental regulation can make new brown- or greenfield lines more attractive than lifetime extensions
- Tighter CO₂ regulation can drive increased demand for grinding stations

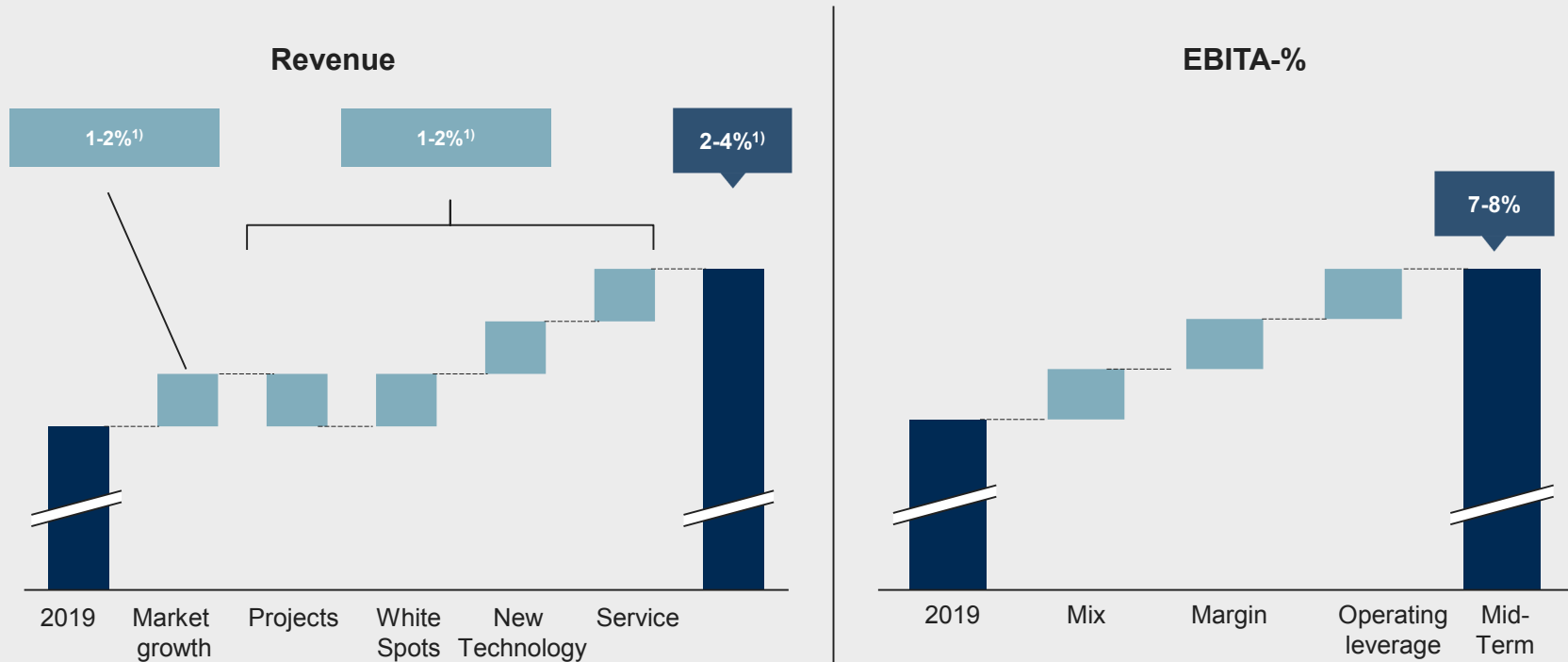
Optimising operations through Digital



Optimising operations through Digital



Cement revenue and EBITA margin



¹⁾ Average annual growth rate over the cycle

Size of bars does not reflect relative share

Thank you



flsmidth.com/linkedin



flsmidth.com/twitter



flsmidth.com/facebook



flsmidth.com/instagram



flsmidth.com/youtube

6 November 2019

Manfred Schaffer, President Mining

MINING MARKET AND STRATEGY

WE DISCOVER POTENTIAL

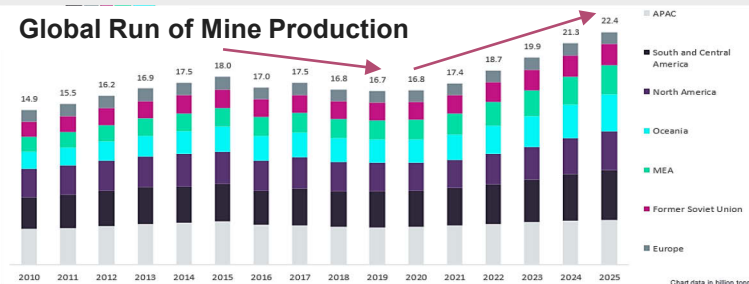
 FLSMIDTH

Key messages

- Mega-trends provide a **positive outlook** for the Mining Industry
- Our understanding of the Mining Customers' **Sustainable Productivity** challenges creates new business opportunities
- The Mining strategy, through innovative technologies and products, digitally assisted services and customer intimacy, will provide ample **growth opportunities for FLSmidth**
- The successful execution of our strategy will provide **more stable sustainable profitable growth**

Global trends provide a positive outlook for the mining industry

- Global production is estimated to **increase by 4.2% CAGR by 2025**
- CAPEX will continue to recover, supported by **ongoing brownfield spend**
- Stable demand and supply for most metals mean **less need to initiate large greenfield projects**
- “Social licence to operate”** is increasing focus on sustainable productivity
- Shift of new mine developments to geographies with historically **higher geopolitical risks**
- Ore grade decline** continues, requiring more investments in production capacity
- Commodity cost curves to remain **above incentive levels** for main commodities
- Mining companies have a **strong cash position and liquidity**, and therefore capacity to invest



Sector	Outlook	Rating trajectory	Leverage trend	Cash flow generation	Liquidity position
Metals & Mining	Stable	Static	Steady	Positive	Strong
Aerospace and defence	Stable	Static	Steady	Strong	Manageable
Automotive	Stable	Static	Steady	Moderately Positive	Robust
Big Pharma & biotech	Stable	Down	Steady	Strong	Robust
Consumer	Stable	Static	High but Falling	Strong	Robust
Engineering & construction	Stable	Static	Steady	Limited	Mixed
Oil & Gas	Stable	Static	Broadly Stable	Robust	Generally Robust
Retailing	Negative	Static	Steady	Mixed	Mixed
Shipping	Negative	Mixed	Steady	Diverse	Manageable
Utilities	Stable	Static	Steady	Neutral	Robust

Source: Fitch Ratings

FitchRatings

Sources: GlobalData, Fitch Ratings

Mining market development example: Copper focus

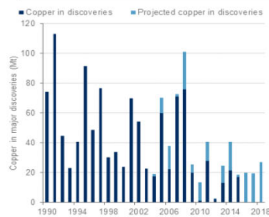
Economic downturn puts pressure on copper prices



But Chinese imports of concentrate continue to rise

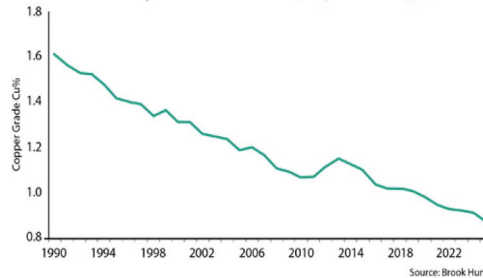


Copper discoveries few and far between



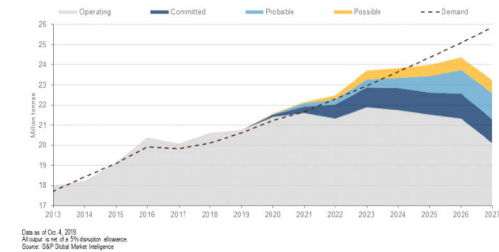
Date as of Oct 4, 2019
Source: S&P Global Market Intelligence

Industry Head Grade Trends (Weighted Paid Copper)



Demand will outstrip supply in 2022

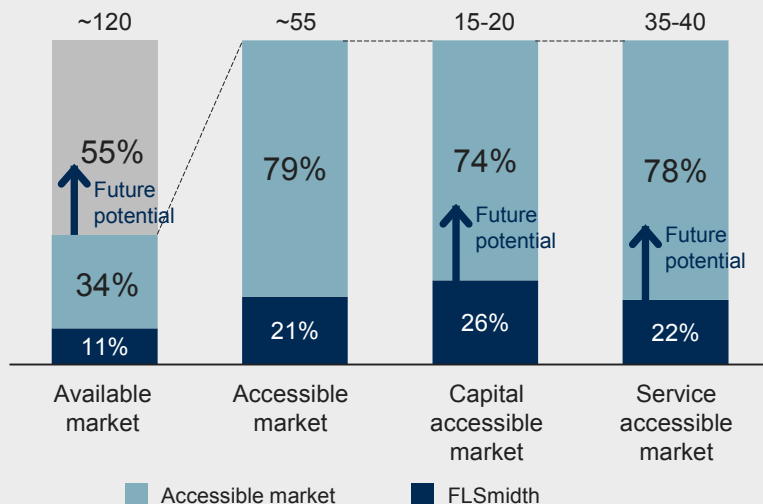
Project pipeline – Decline in available greenfield primary copper projects in the medium term



FLSmidth has a large opportunity to grow in Service

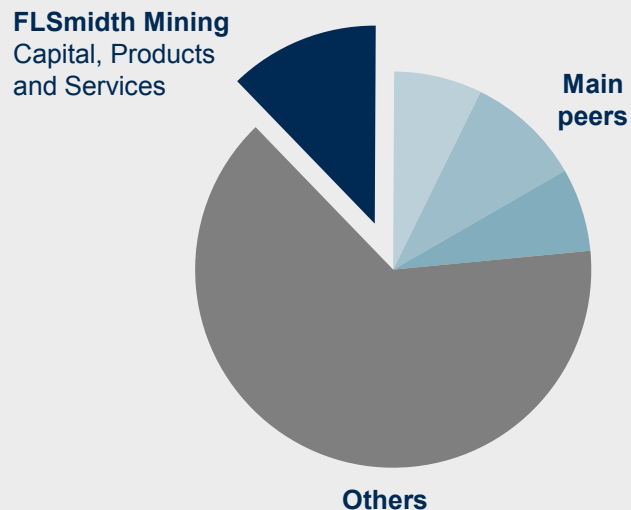
INDICATIVE

ESTIMATED MINING CAPEX
(SUSTAINING AND EXPANSION) AVAILABLE
MARKET ESTIMATE (2018, DKKbn)



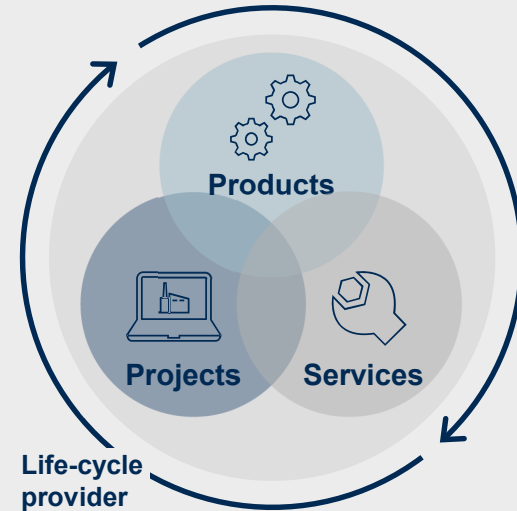
Note: Capital incl. Projects and Products; Service incl. Spare parts, Wear parts, Services, Upgrades and Retrofits; Accessible market definition varies by segment and is on a high level based on FLSmidth technology and offering. Source: FLSmidth analysis

ESTIMATED MARKET SHARES
(TOTAL AVAILABLE MARKET)



Our understanding of mining customers' productivity and sustainability challenges creates new business opportunities

- **Drop of ore grades** (increase in ROM production) requires optimised process and increased efficiencies
- **Ageing machinery and high utilisation rates** drive the need for replacements and service intensity
- **Digitalization** becomes a key tool for asset health management and improved minerals processing
- **Focus around “Social license to operate”** is increasing attention on miners' environmental footprint
- Financing of projects and **access to capital** contingent on sustainable practices
- Cost and discharge of **waste and water** are under heavy scrutiny, negatively affecting operations



Selected elements

Mining strategy



Capital Projects

Improved project execution

- Project hubs concept



Service

Wear parts business

- Expansion of mill liner offering



Digitalization

Process optimisation and asset health

- Connected equipment
- Service response and uptime



Sustainability

Technological potential

- Water recycling and Tailings management
- Reduced energy and pollution

Current challenges in mining capital projects execution

Project execution close to customers, but through many locations

- Fragmented, sub-optimal project organisation
- Resource availability and competence issues
- Difficulties with global overview and control

More projects executed in phases (Stop-and-Go) and delayed contract completion

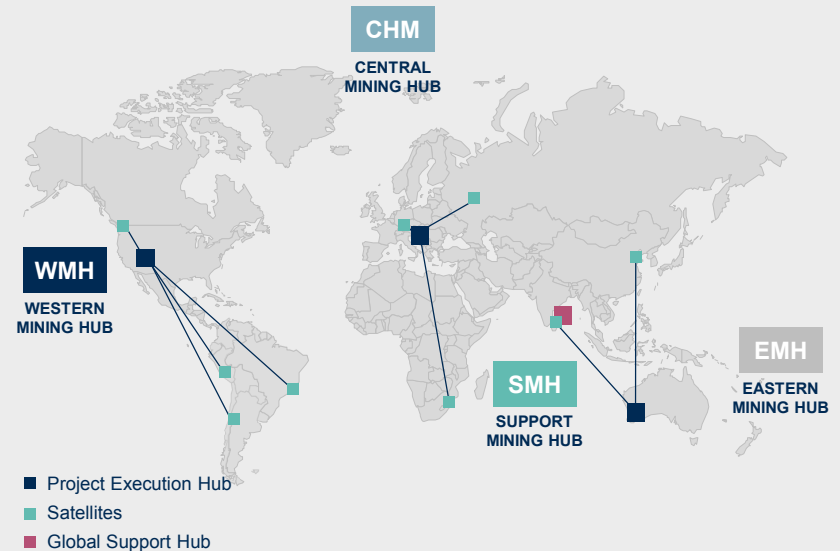
- Slow and unpredictable customer decisions
- Interrupted workflow and resource absorption issues
- Customers not eager to take-over equipment and plants

- Project margin erosion from higher execution costs
- Re-assessment of margin expectations from backlog
- Improvement by consolidation of sites and resources

Capital projects: New execution model will drive focus and increased profitability

- **Cyclicality in Mining Capital** business will continue, need model to better manage **volatility and fluctuating** impacts to our business mix
- Professional global project execution requires **availability of competence resources**, difficult with too many locations
- We are streamlining project execution through:
 - **Western, Central and Eastern Hub:** Critical mass of project management, engineering, procurement capabilities
 - **Adding crucial resources** for commercial, risk and claim management in Hubs
 - **Regional “satellites”** focusing on day-to-day interaction with the customer and local suppliers
 - **Global pool** of mobile experts for critical tasks

IMPROVED PROJECT MARGIN BY BETTER EXECUTION THROUGH RESOURCES WITH ‘RIGHT SKILL SET’



Service: Implementing a global strategy that enhances customer wear liner productivity

Wear liners Center of excellence

Product development

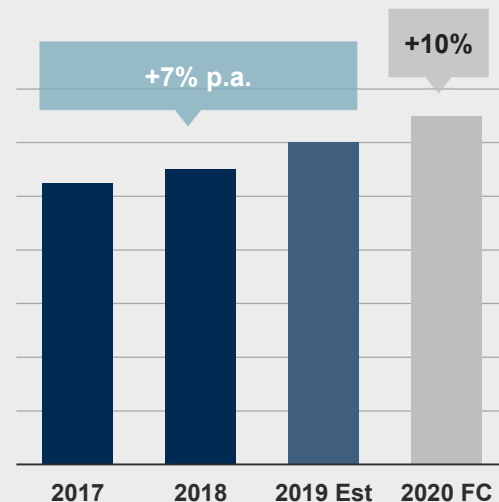
In-house production and supply chain

Expansion of offering

Distribution and packaging

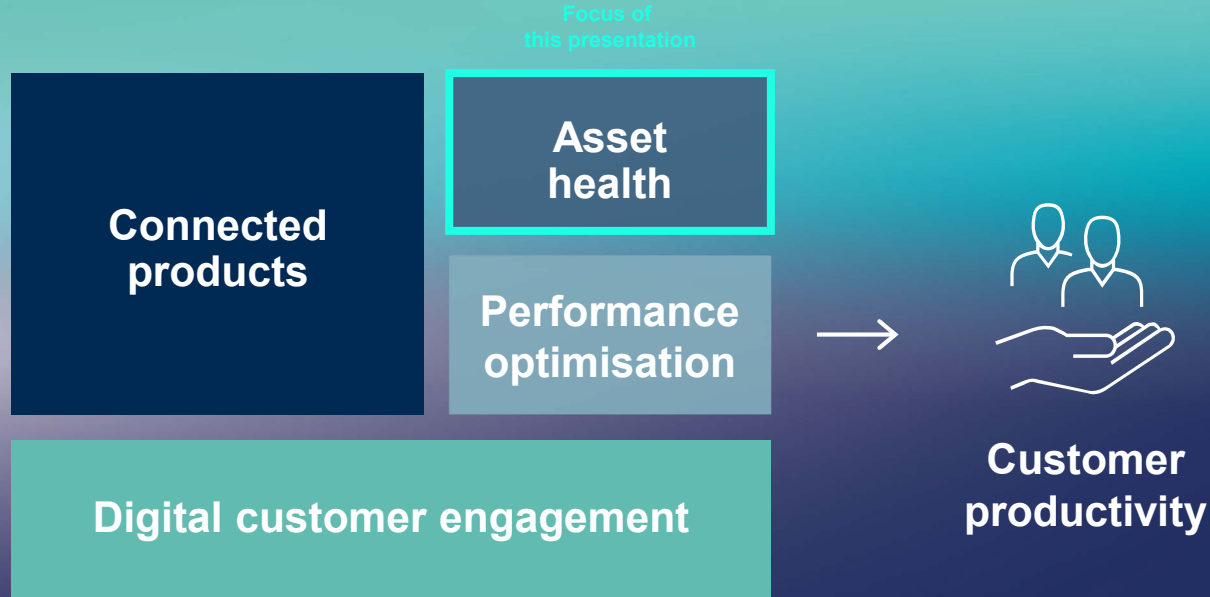
- Establishment of in-house **engineering** excellence and **metallurgical expertise** for metallic and composite wear liners
- Ability to prototype and validate customised solutions through a **1st Article Liner Foundry**
- Increased **in-house production** capabilities coupled with strategic supplier agreements
- Product line expansion of **composite liner** technology
- Utilisation of **global** service centre footprint to assure sufficient **local** availability of products

WEAR PARTS GROWTH

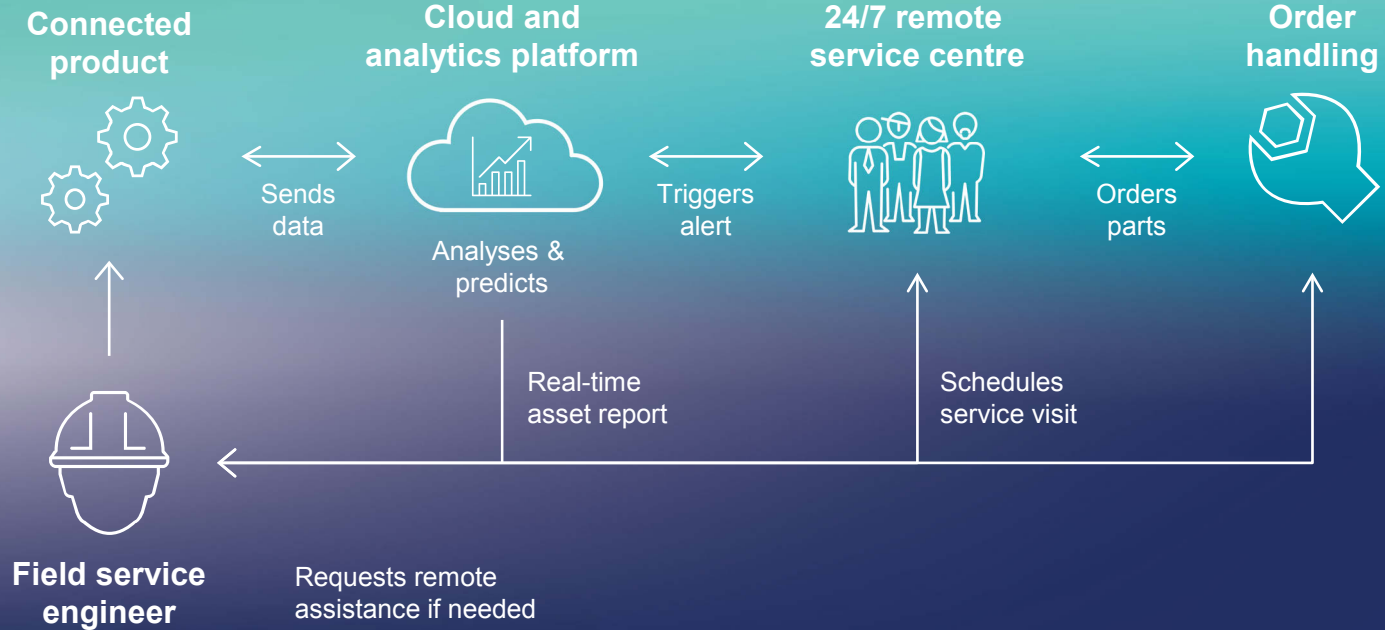


With over 500 mills and large gyratory crushers globally installed, FLSmidth is well positioned to take leadership position in this > 10 bn DKK per annum market

Delivering customer productivity through connected products and bundled services



Increasing uptime through digital



Increasing uptime through digital

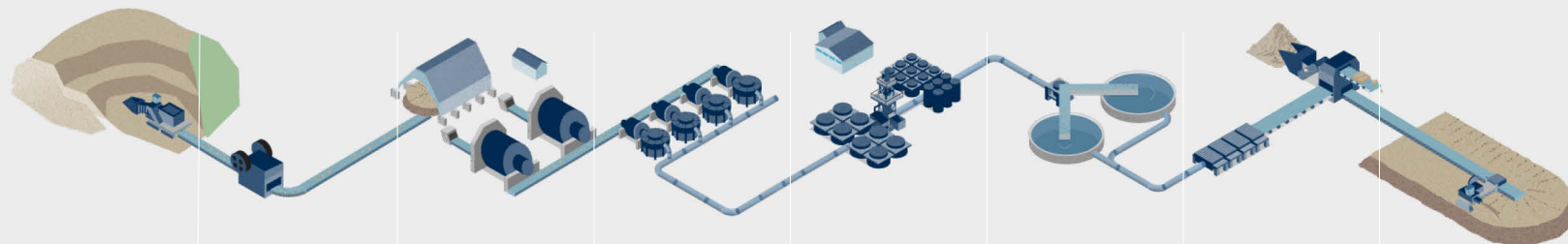
- **Remote support** for our field service technicians
- **Access to FLSmidth experts** across the globe
- **Faster resolution** of incidents and **reduced cost** of service delivery



FLSMIDTH
ENBLR

Sustainability & Productivity

Technological potential

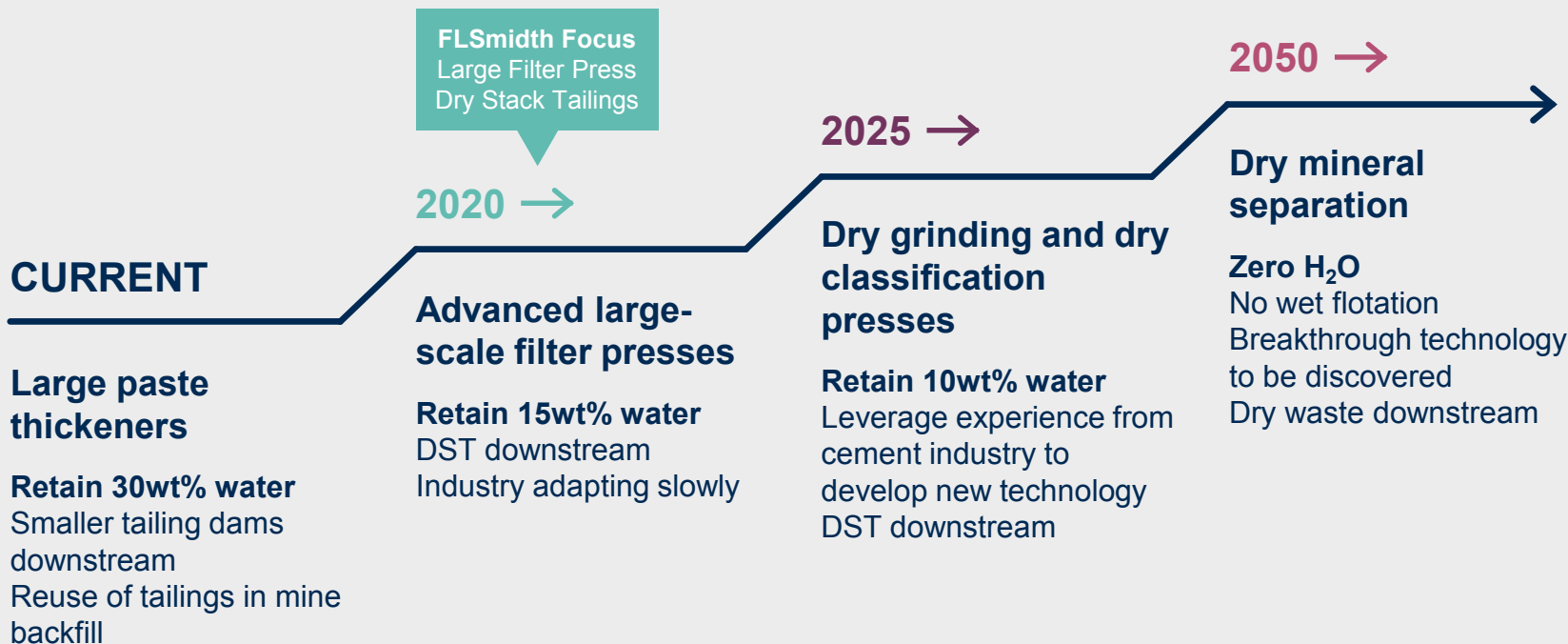


1. Extraction	2. Minerals material handling	3. Comminution	4. Pumps, valves and cyclones	5. Beneficiation and recovery	6. Thickening	7. Filtration	8. Tailings management
---------------	-------------------------------	----------------	-------------------------------	-------------------------------	---------------	---------------	------------------------

- | | | | | | | | |
|---|---|---|--|---|---|---|--|
| <ul style="list-style-type: none"> ▪ Early waste rejection ▪ In situ processing ▪ Semi-mobile Processing | <ul style="list-style-type: none"> ▪ Bulk ore sorting ▪ Stockpile management ▪ IPCC | <ul style="list-style-type: none"> ▪ New Milling Technology ▪ Wear technologies (composites) | <ul style="list-style-type: none"> ▪ Energy recovery ▪ Wear & Lifetime ▪ Displacement pumps | <ul style="list-style-type: none"> ▪ Coarse flotation ▪ Dry processing ▪ Reflux tech ▪ ROL | <ul style="list-style-type: none"> ▪ High performance deep cone thickeners ▪ Paste plants | <ul style="list-style-type: none"> ▪ New continuous pressure filtration technology | <ul style="list-style-type: none"> ▪ Ecotails ▪ Smart tailings flowsheet (reduction of fines) |
|---|---|---|--|---|---|---|--|

Towards zero-H₂O

How can a mine become water-neutral



Dry Stack Tailings are a step change in water management

2016 - 2017

Testing pilot plant and optimisation

- Potential savings in water costs in a typical mine: USD 81m/year → **USD 1.2 bn over 15yrs mine life**
- **Estimated addressable market of 1.3-2 bn DKK** (approx. 50:50 split CAPEX and OPEX) **per year**

2018 - 2020

1st full-scale pilot and demo plant

- The <20 ktpd filtered tailings market is active; FLSmidth is winning projects
- Systems for Filtered Paste plants (Hindustan Zinc, Lundin Gold)
- Supply of world's largest Paste Thickener system to Kazakhstan
- Collaboration with key customer on tailings (incl. a first order for 30 disc filters in Brazil)

2021 -

Commercialisation and market penetration

- Continue development of filtration technologies for large scale tailings operations (>200.000 tpd)
- Work on full-size plants for dry stacking of tailings and eliminate the risks from wet Tailings Storage Facilities / Dams



Rapid Oxidative Leaching – a process for handling ‘difficult (oxide)’ and ‘polluted (arsenic)’ ores

2017
Pilot plant

2018 - 2019
1st Demonstration plant

2020 - 2021
Full-scale project

Addressable market:

- Conversion of oxide to sulphide (50% of plants) – **CAPEX USD 1 bn over 10 yrs**
- 10% of mines containing high arsenic – **CAPEX USD 1.5 bn over 10 yrs**
- Total estimated potential for RoL **1-2 bn DKK per year**

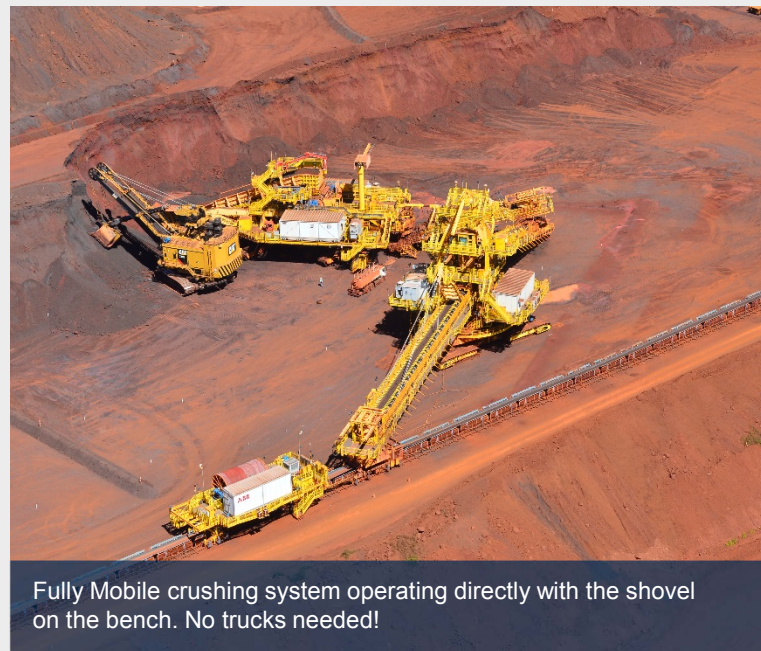
- Successful completion of pilot plant testing
- Development, supply and start-up of demo plant in Peruvian Copper operation
- Continuation of testing for gold and other applications

- Realisation of full-size plant and proof of feasibility
- Commercialisation of applications in copper
- Demo plant in gold application and proof of technology

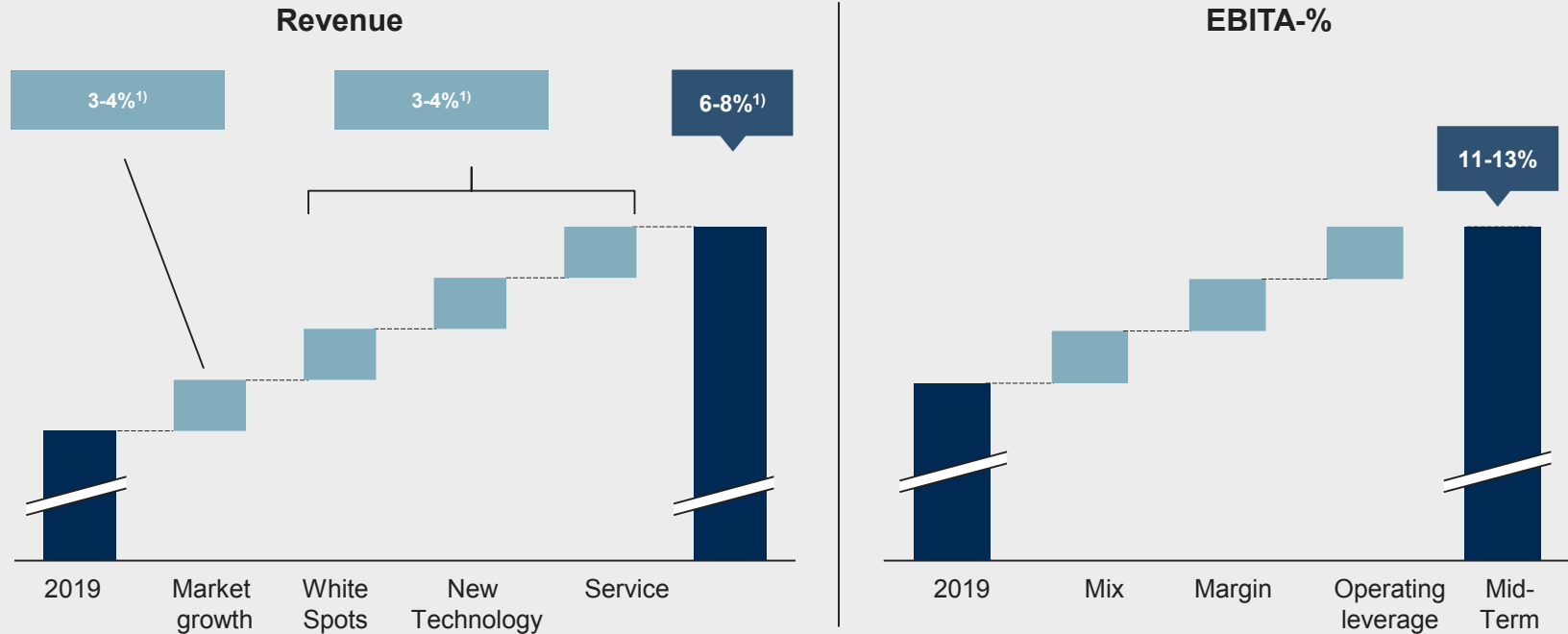


Energy savings and CO₂ reduction by In-Pit Crushing and Conveying (IPCC) systems

- **Market / Application**
 - Deeper mines and higher production rates require more efficient material transportation
 - Market potential: **1-4bn DKK per year** (<10% of conventional truck & shovel operations)
- **Highest grades of digitalization**
 - Continuous flow technology
 - IPCC systems are always semi or fully automatic
- **Direct reduction of environmental footprint**
 - Reduced CO₂ emissions through electric drives and limited use of diesel-powered trucks in mines
 - Water savings through less dust suppression
- **Reduced operational costs**
 - Less operations and maintenance personnel required
 - Less supporting logistics required, no haul-road maintenance
- **Increased safety**
 - Less mobile equipment and less room for human error



Mining revenue and EBITA margin



Size of bars does not reflect relative share

¹⁾ Average annual growth rate over the cycle

Thank you



flsmidth.com/linkedin



flsmidth.com/twitter



flsmidth.com/facebook



flsmidth.com/instagram



flsmidth.com/youtube

6 November 2019

Mikael Lindholm, Group CDO

DIGITAL DRIVES PRODUCTIVITY

WE DISCOVER POTENTIAL

FLSMIDTH

Accessing 137 years of installed base

- Connects products and plants to FLSmidth's digital infrastructure
- Seamlessly integrates with FLSmidth's control systems, making existing data and signals available
- Easy to retrofit



FLSMIDTH
ENABL'R

SiteConnect

Insights on the go

- **Full transparency** on machine, process, and plant KPIs, in real-time
- **Mobile notifications** when user-defined events occur, e.g. downtime and production shortage
- **Compare performance between assets and plants** to identify higher/lower performing equipment



Key messages

- **Process optimisation** and **asset health** are key areas to drive **productivity** and **sustainability** for our customers – FLSmidth is enabling our customers to use this opportunity through digitalization
- FLSmidth is leveraging digital to **differentiate our premium offering** and **capture a larger part of the service business**
- We are driving **innovation in digital** and extending our access to new technology, talent and competences in Cement and Mining

Today's focus:

Our offerings and solutions

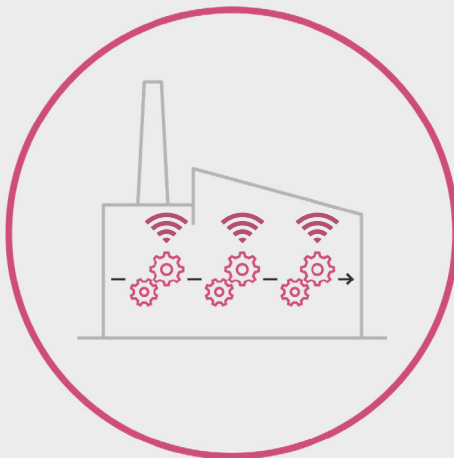


Our digital solutions target three levels

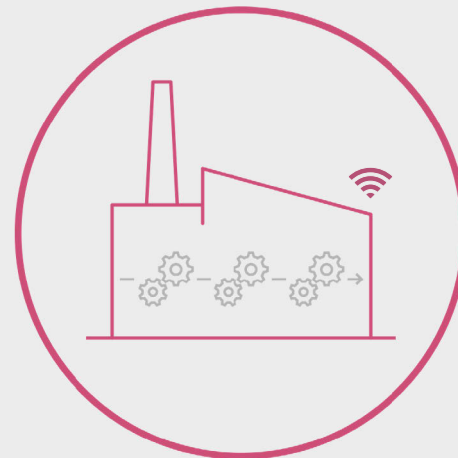
Product level



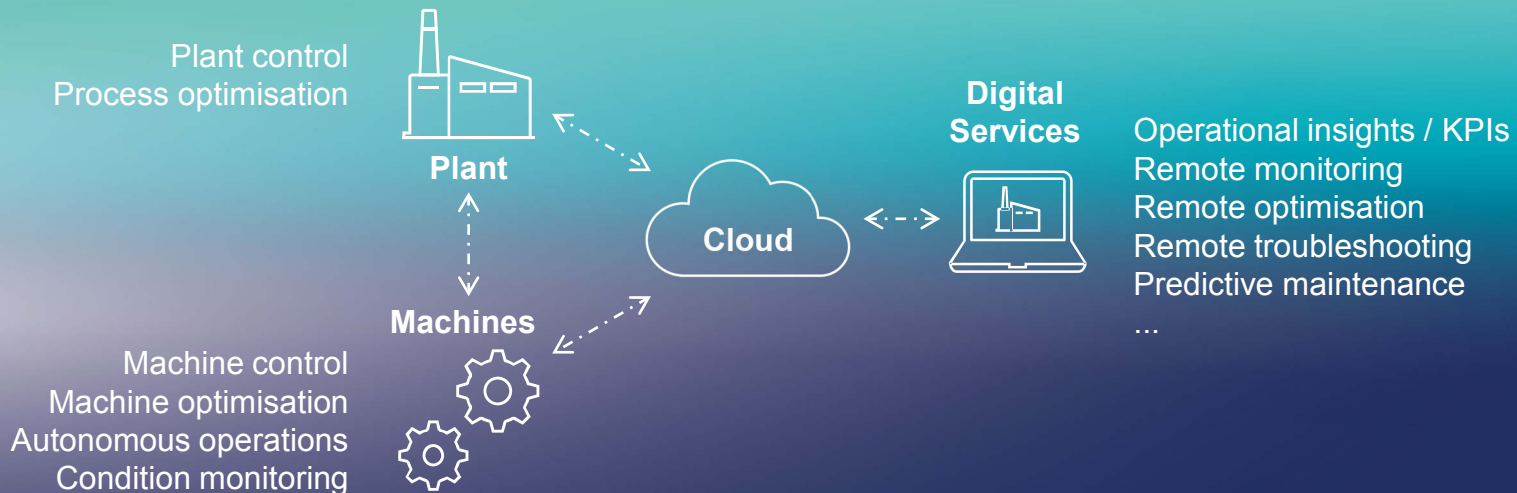
Flow-sheet level



Plant level

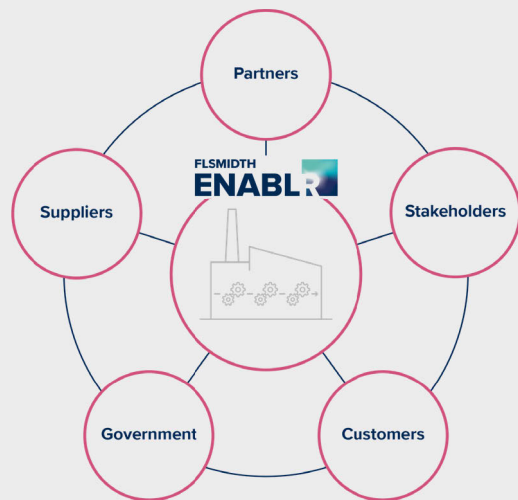


Our digital business offerings



Outlook: full end-to-end integration

Part of a greater ecosystem

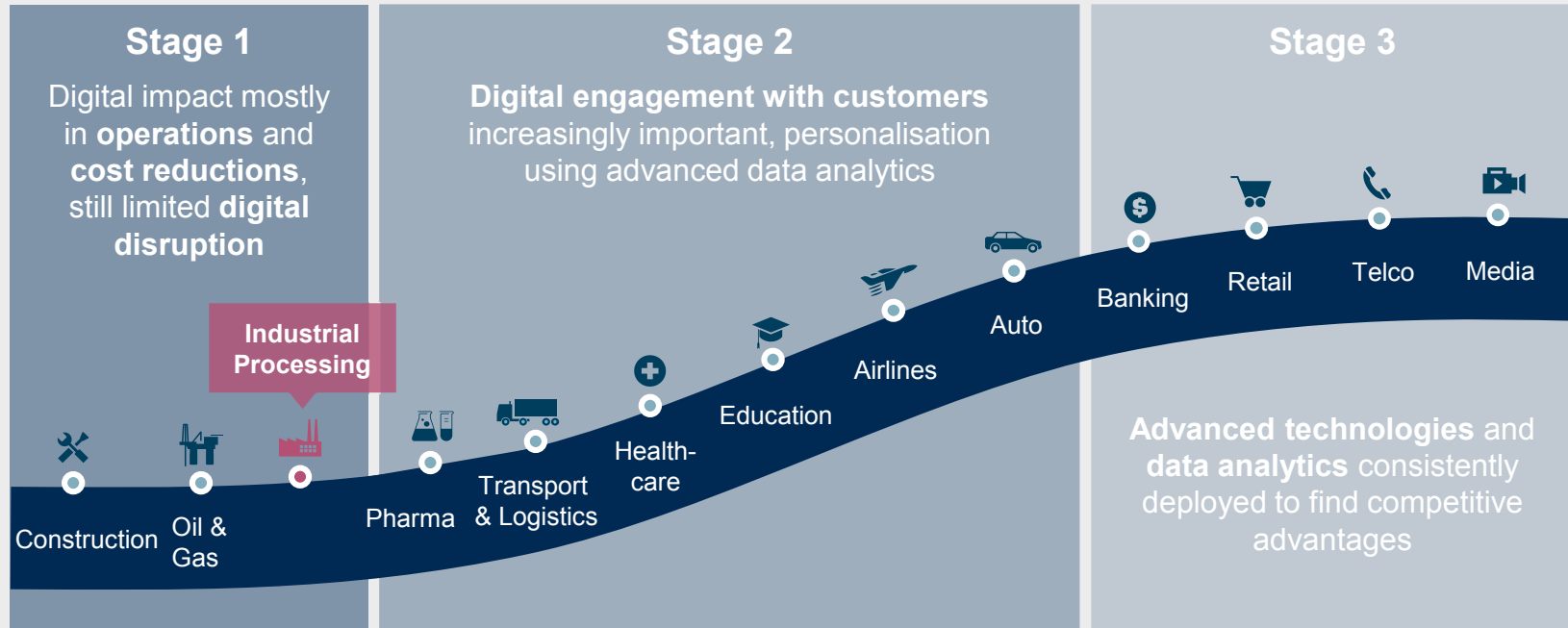


Ecosystem level

Integration upstream and downstream adjusting production to balance supply and demand

Building and orchestrating an **ecosystem**, leveraging **platforms and blockchain**

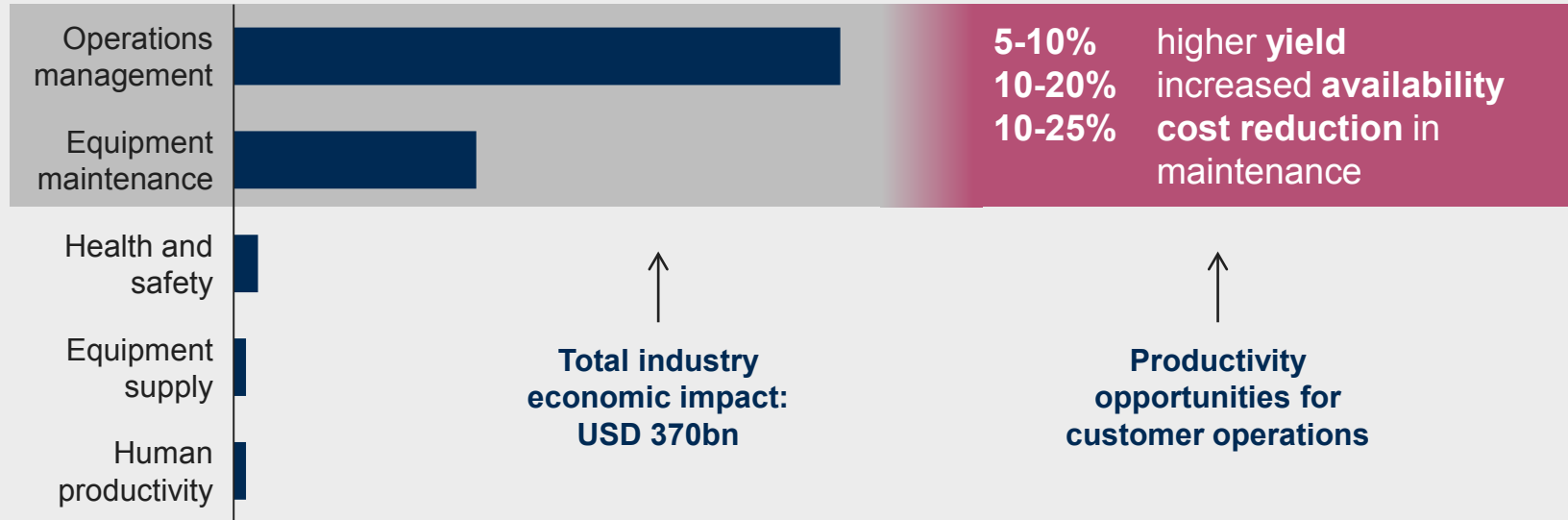
Cement and Mining catch up in digital adoption - many other industries to learn from



Digitalization is a productivity opportunity

Value for our customers

Potential economic impact of sized applications in Mining in 2025 (\$bn)

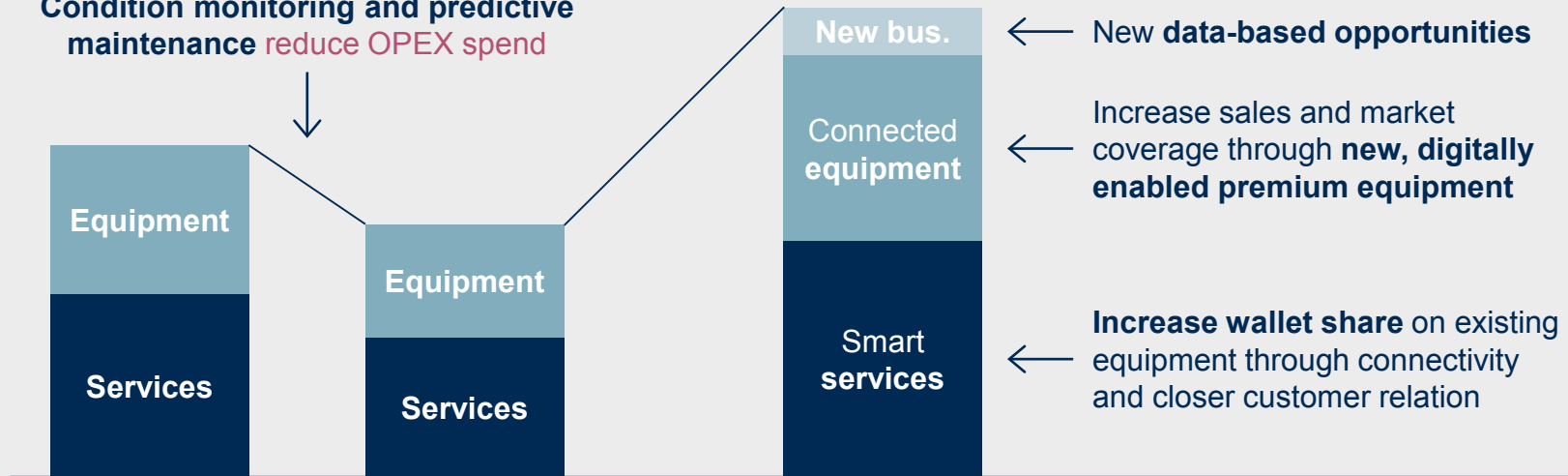


Source: McKinsey

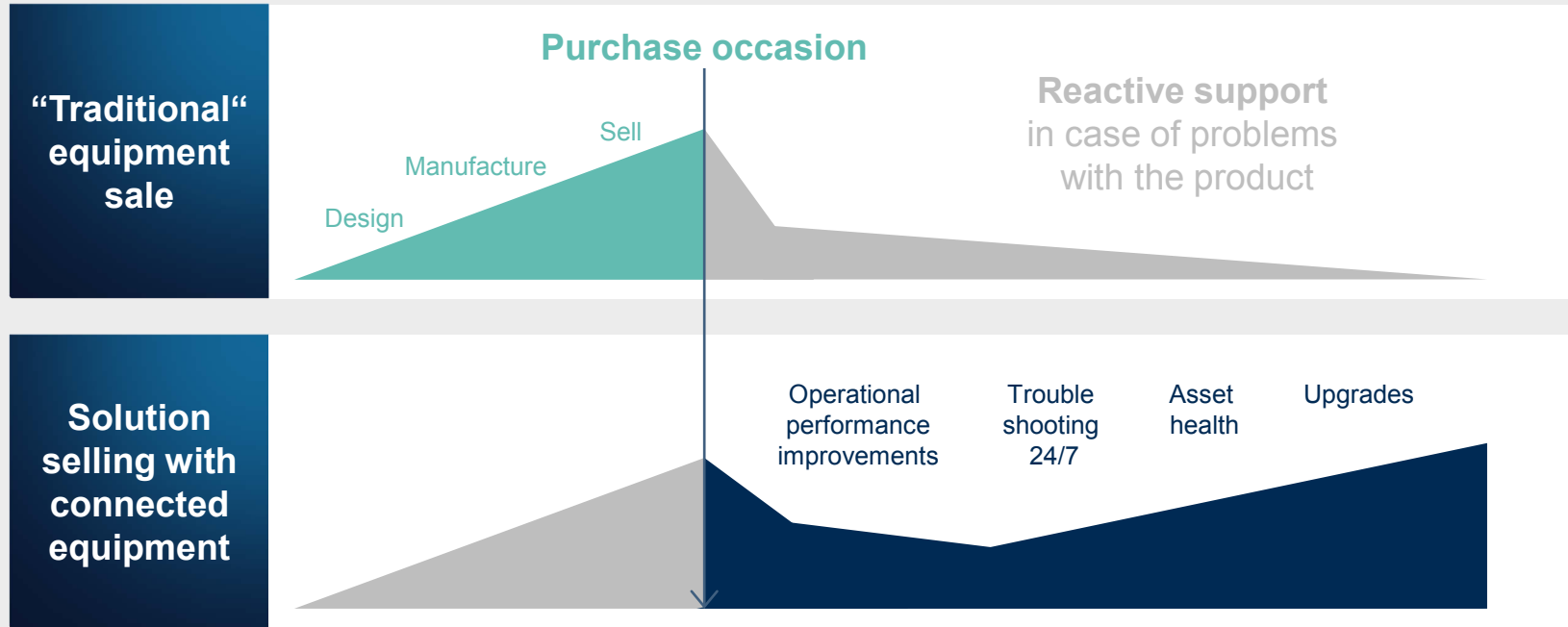
Cannibalisation is a business opportunity

Equipment lasts longer and performs better, reducing CAPEX spend

Condition monitoring and predictive maintenance reduce OPEX spend



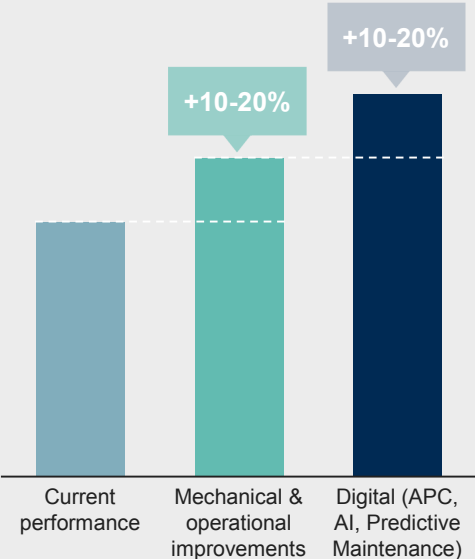
Value creation: previously the product was the end of the user experience – now it is the starting point



FLSmidth's unique position

Combining product, process, service and digital

PRODUCTIVITY
(e.g. throughput)

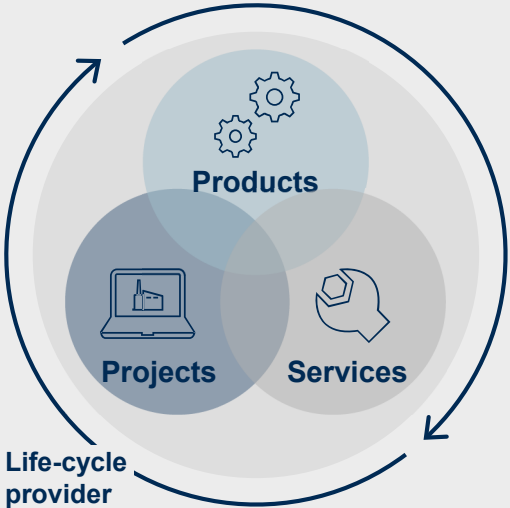


Product, service, process knowledge

Improve maintenance and operational procedures

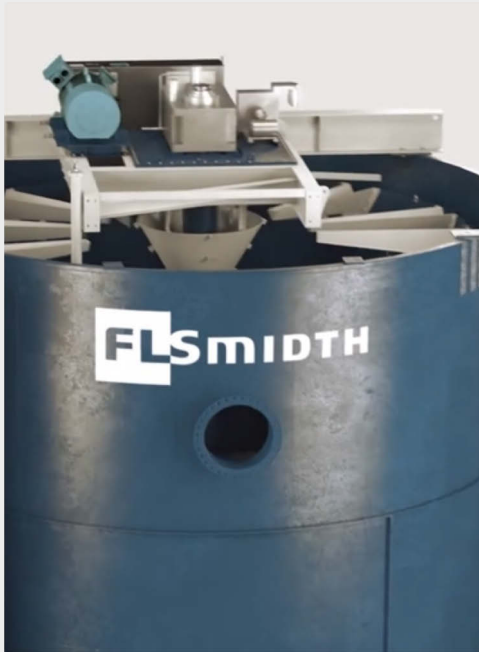
+ digital and analytical knowledge

Data-driven optimisation and finetuning, implementation through control systems



Example: Flotation optimisation in Mining

Improve recovery & reduce reagents consumption



“Smart Flotation” package

- Improves recovery
- Delivers higher grade product
- Enhances flexibility
- Reduces use of reagents
- Improves control

Economics

- Recovery rate up 3.0%
→ up to DKK 20m revenue increase p.a.
- Reagents consumption reduced by up to 25%

- ✓ **Productivity**
- ✓ **Sustainability**
- ✓ **Service opportunity for FLSmidth**

Example: Fabric Filter optimisation in Cement

Reduce power consumption and increase bag life



EVO II machine control system

- Reduces fan power and compressed air consumption
- Extends filter bag life
- Enables remote filter monitoring and fine-tuning
- Easy to retrofit

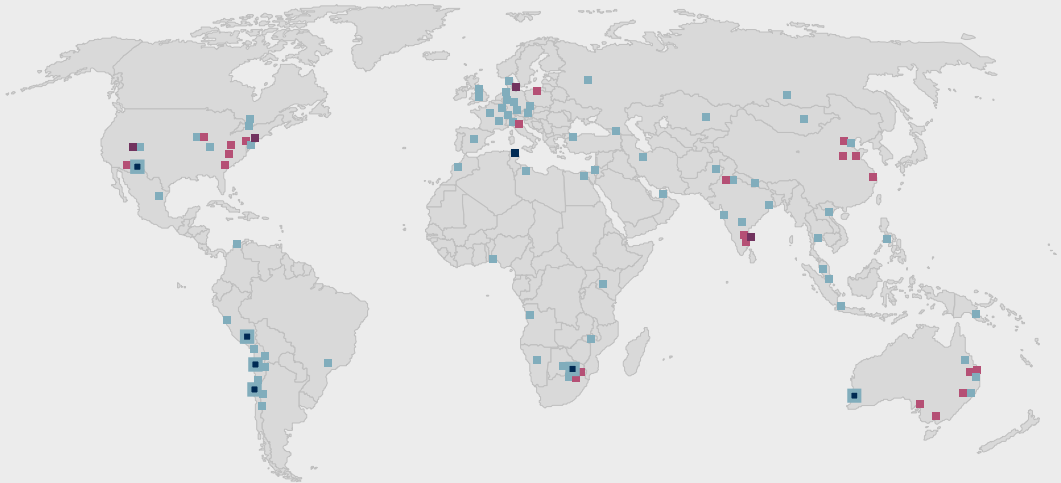
Economics

- 10-15% energy savings¹
- 25% longer bag life
- Bundling with service contracts and filter bags

- ✓ **Productivity**
- ✓ **Sustainability**
- ✓ **Service opportunity for FLSmidth**

1. Energy savings depending on filter size

Number of connected assets grows continuously



Status

- >750 assets connected last 12 months
- >200 plants served with remote monitoring and optimisation service packages

Outlook – next 3 years

- All new equipment is connected
- 25% of installed base retrofitted

Driving innovation in Digital

Access to new technology, talent and capabilities

Partnerships	Partner with market-leading providers of digital technologies and solutions to pilot and scale applications
Intrapreneurship	Identify and incubate new business models based on expertise at the core of our business
Investments	Invest in edge and transformational technology models that will be relevant for FLSmidth in the future

Focus technologies

Artificial Intelligence	Data Analytics
Internet of Things	Blockchain
Sensors & Components	Adv. Materials & Chemicals
Robotic Systems	Resource Productivity

Thank you



flsmidth.com/linkedin



flsmidth.com/twitter



flsmidth.com/facebook



flsmidth.com/instagram



flsmidth.com/youtube

6 November 2019

Deon De Kock, President Sub-Saharan Africa & Middle East

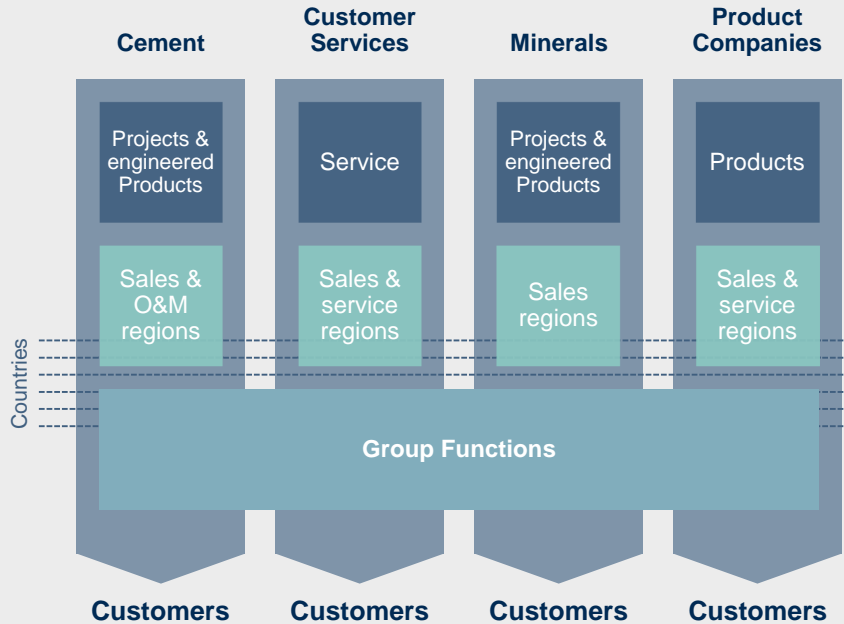
A REGIONAL PERSPECTIVE

WE DISCOVER POTENTIAL

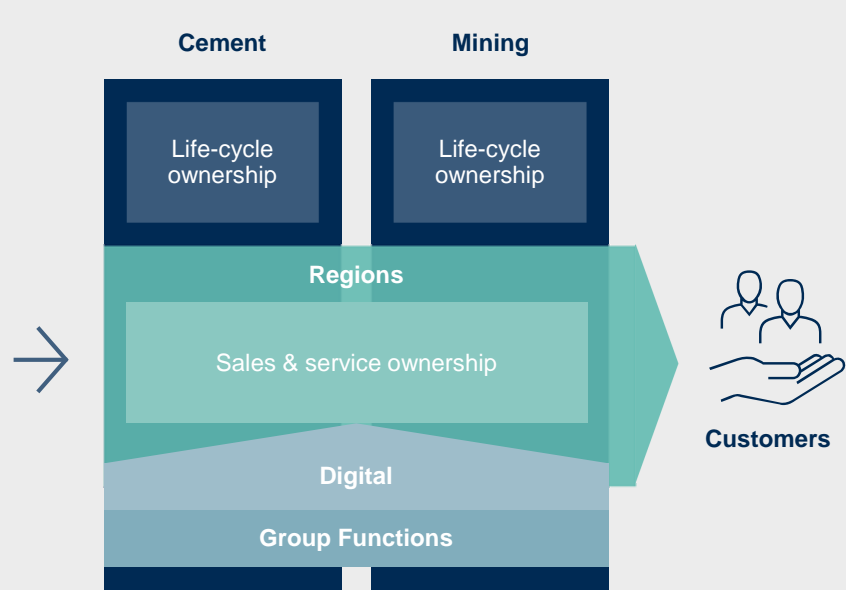
 FLSMIDTH

Implementation of Productivity at Work: Two industries, seven regions, one digital approach

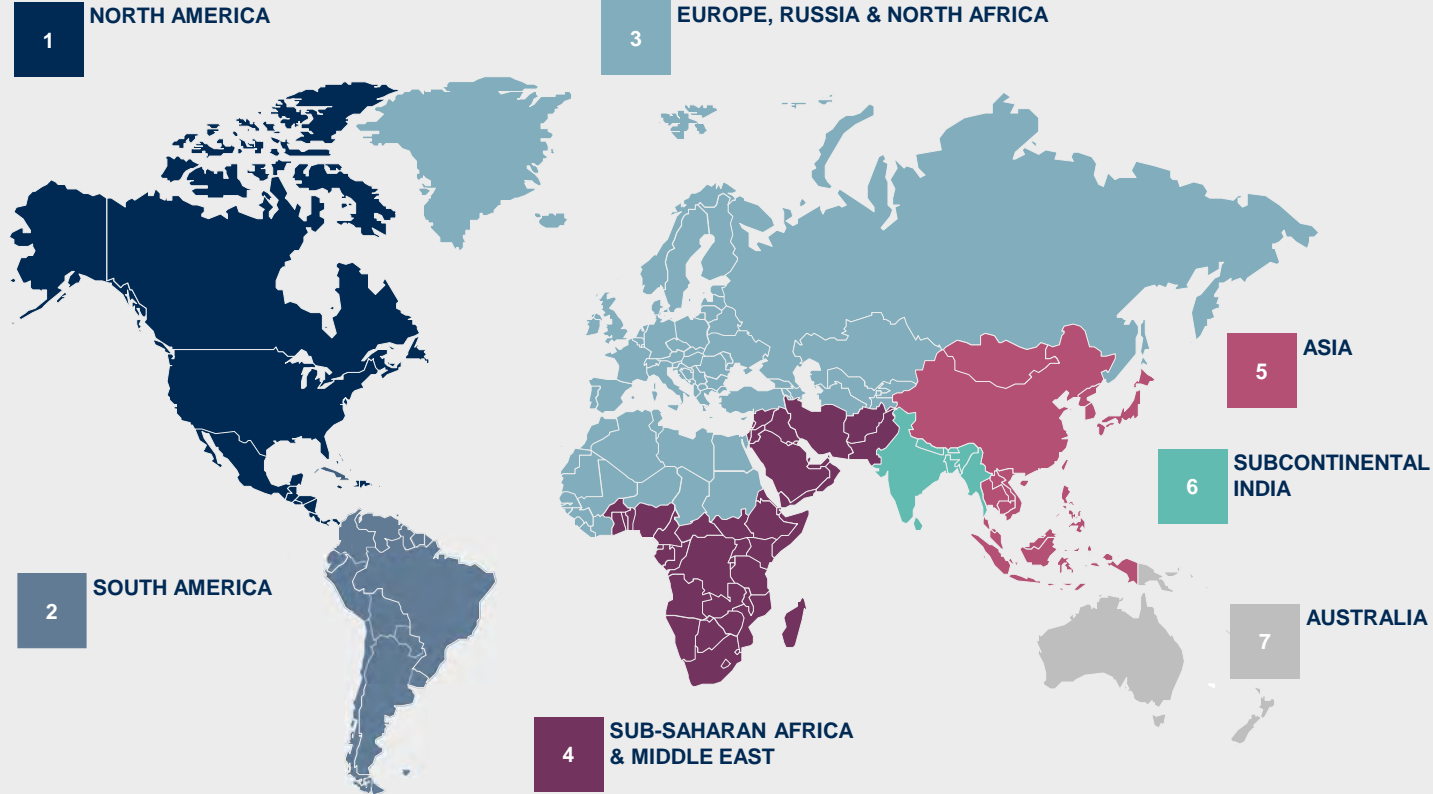
BEFORE



AFTER



7 Regions: Customer-centric, service-oriented structure



Sub-Saharan Africa & Middle East

SSAME REGION



~ 800 employees
in 24 locations



3 manufacturing
& assembly plants



15 Sales & Service
units in 8 countries



More than 60% of
Customer Facing

MINING



395 Operational mines



1 Billion tons p.a
Minerals processed

Share of global production:

Coal – 4%	Copper – 12%
Gold – 14%	Iron ore – 6%
Diamonds – 50%	Platinum – 75%



14%
FLSmidth share of installed base

CEMENT



289 Cement plants



269M tons p.a.
Cement production

468M tons installed capacity

7% share of Global production



18%
FLSmidth share of installed base

Figures are 2018 estimates based on external sources and FLSmidth analysis

Immediate impact from new way of working

- Focused on “white spot” coverage and total FLSmidth installed base
- 4-Tier Sales and service organisation
- Sales force mobilisation and extensive product training
- Field service capacity and frontline expertise strengthened
- Direct sales channels and optimised sales hubs
- Increased number of customer-facing team members
- Shared strategic support functions throughout SSAME
- Closed down 1 non-core plant and DOUBLED Super Center capacity

Direct sales channels in Ghana and West Africa



Established 2018
Head Office Accra
Employees ~ 15
General Manager Joseph Appiah-Kubi



ECOWAS Countries



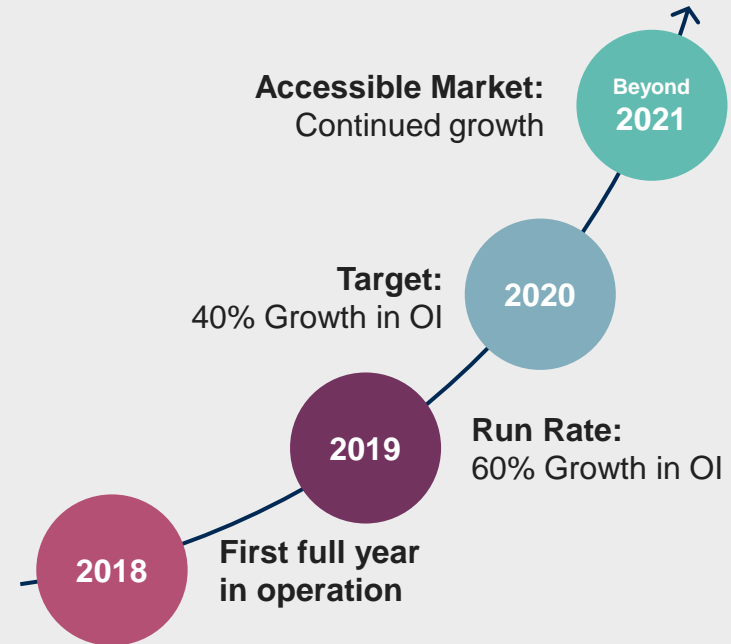
Market and opportunity for growth Ghana & West Africa

Market information

- Gold – 5 top-tier companies active
- Cement – 2 top-tier companies active
- Demand & opportunity for OEM support
- More than 60 active mines
- Increased exploration activities
- Significant FLSmidth installed base
- Cement - Competitor installed base
- Increased production, recommissioning

Investment into local presence and resources

- Clients expect local expertise, better lead times & on-site service
- Minerals Counsel & Legislation



Covering the “white spots” Saudi Arabia



Established 2018
Head Office Al-Khubar
Employees ~ 50
General Manager Abdullah Al-Muhaisen



45 km. from King Fahd Int. Airport Dammam
30 min drive from Bahrain



Closer relationships with Yanbu Cement Saudi Arabia



**FLSmidth Plant
Management
Contract.**

**Staff Complement
33 people**



**Joint Venture
Training Academy**

**Yanbu Cement Co
& FLSmidth**



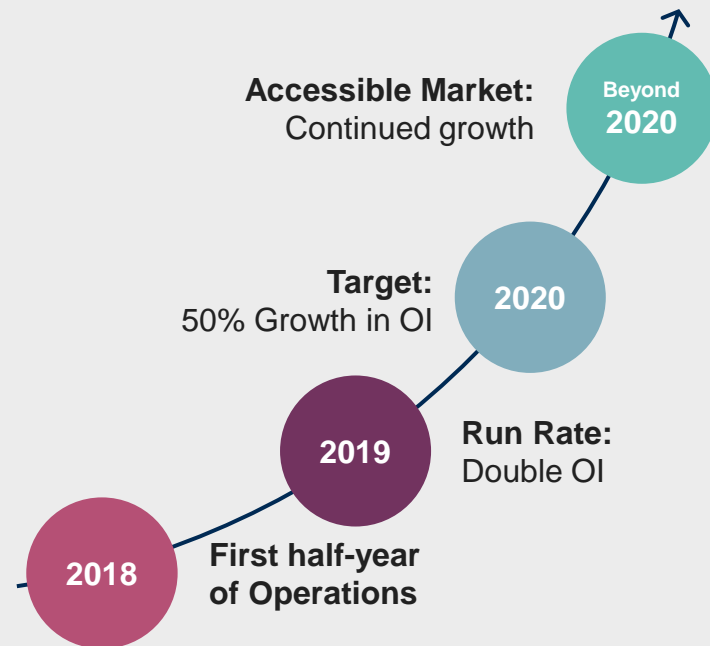
Market and opportunity for growth Saudi Arabia

Market information

- Vision 2030 – Kingdom of Saudi Arabia
- Mining 3rd pillar of economy - \$400 bn
- Gold 3-fold increase to 1m ounces p.a.
- Phosphate add 3mtpa. Top 3 Global
- Stable cement production
- Small installed base for mining
- Cement - Competitor installed base
- World class local cement producers

Investment into local presence and resources

- Client demand, local legislation & more open business environment
- Big opportunity, first mover gains



Digitalization – Working closely with customers in South Africa

BULK EXPERT SYSTEM

Train Load Out Station & Unmanned Stockyard Solution

Postmasburg, South Africa

- Control and optimisation of the train loading process
- Stockyard Bulk Expert for two stackers and one reclaimers
- Currently being commissioned

Reflux Classifier Modular Plant Sibanye Stillwater Watererval UG2 Site, Rustenburg - RSA

- First unit installed at Glencore/Impala
- Data collected Mar-Sep 2019
- Integrated monitoring on mobile app

IOT – Field agents Cement Plant Lichtenburg – RSA

- Field Agent & Broker PC installed August 2019
- Recording plant data since October 2019



Sustainability

Waste chrome recovery project



POSITIONED AS SUSTAINABLE PRODUCTIVITY PROVIDER #1

New way of work
successfully implemented

Staffed with due regard –
Regions & Industry

“White spots” being
covered with customer
focussed organisation



Positioned to offer life-cycle
support and full offering

Strong Service business
growth

Great Team with Fighting
Spirit in 7 Regions

Final word... from our customers!

“Dealing with regional team support business relation with faster reply and customize solution based on local experience.”

Cement Customer, Rak White Cement,
United Arab Emirates

“Happy to see new technologies presented, didn't know what FLS was doing or if there are any new developments in the cement industry.

Today interactions are much more frequent and more offerings of solutions and services are exchanged, new or different faces are reduced significantly”

Cement customer, PPC, South Africa.

“Till the new way of working, I was not aware of all the products FLSmith offered.”

Mining customer, Senet Head office,
South Africa

“We believe this a good strategy. This was long overdue. We always wanted to talk to only one office for all our products and your entire (FLSmith) offering.”

Mining customer, AngloGold Ashanti
Head office, South Africa.

Thank you



flsmidth.com/linkedin



flsmidth.com/twitter



flsmidth.com/facebook



flsmidth.com/instagram



flsmidth.com/youtube

6 November 2019

Thomas Schulz, Group CEO

DRIVING SUSTAINABLE PRODUCTIVITY

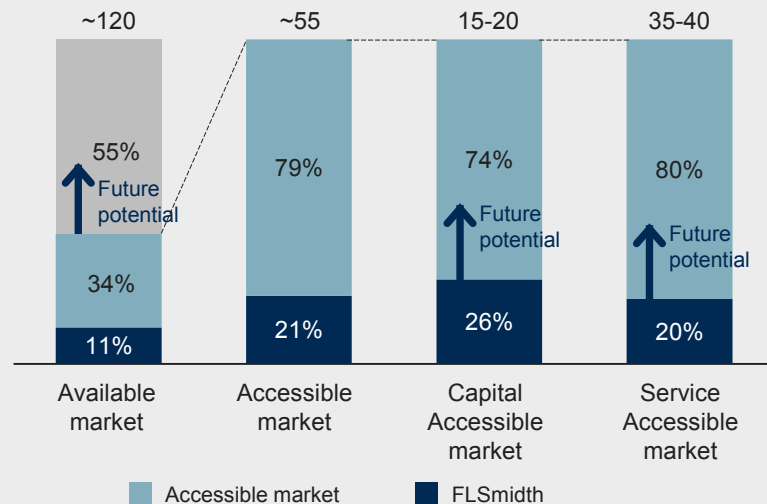
WE DISCOVER POTENTIAL

 FLSMIDTH

FLSmidth has a large growth potential - particularly in service

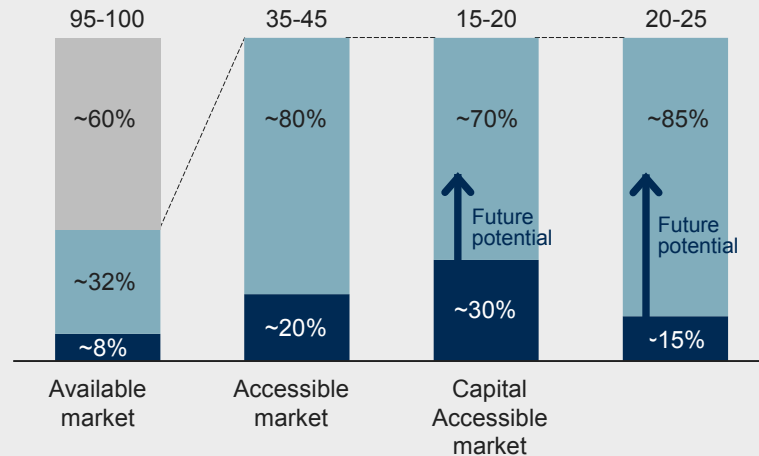
Mining

Estimated Mining CAPEX (sustaining and expansion) available market estimate (2018, B DKK)



Cement

Cement Projects, Products and Service available market estimate (2018, B DKK)



6 CLEAN WATER AND SANITATION



7 AFFORDABLE AND CLEAN ENERGY



12 RESPONSIBLE CONSUMPTION AND PRODUCTION



13 CLIMATE ACTION



We drive success through
sustainable productivity enhancement

Our sustainable ambition for 2030:

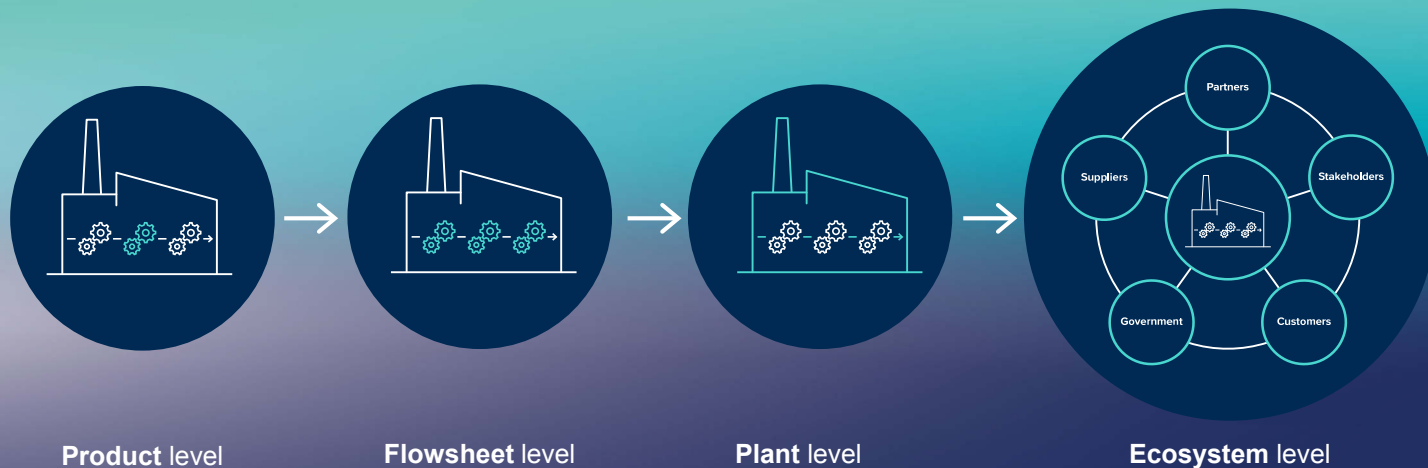
FLSMIDTH

Mission Zero

**Towards zero emissions
in mining and cement**

A strong digital foundation

Digitalization is a big productivity driver and a big opportunity for FLSmidth to increase wallet share



Product level

Flowsheet level

Plant level

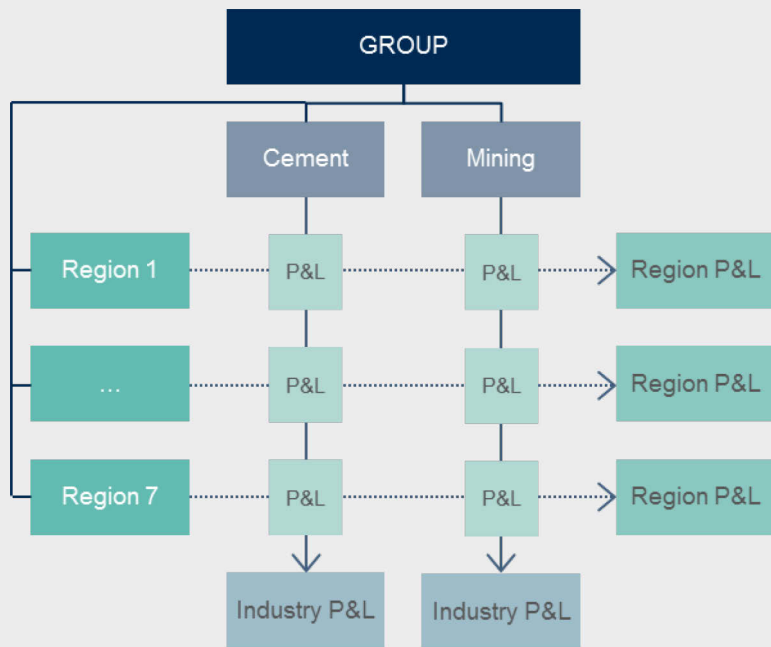
Ecosystem level

Status – over the last year
>750 assets connected
>200 plants served with remote monitoring

Outlook – next 3 years
Every new piece of equipment is connected
25% of installed base retrofitted

FLSMIDTH
ENABLER

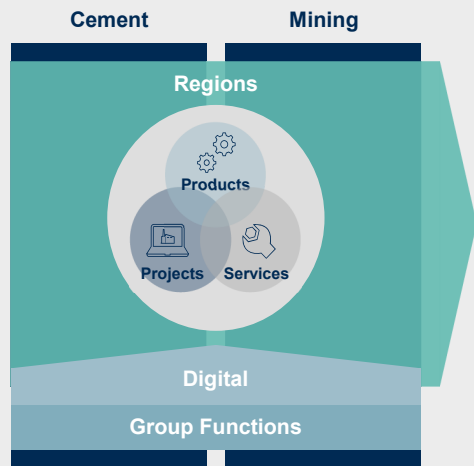
Enhanced data transparency to drive financial performance



Type of business		Gross Margin	Working capital
Capital	Projects	Low	Low to negative
	Products	Medium	Medium
Service	Spare parts	High	High
	Wear parts	Medium / High	High
	Services	Medium	Medium
	Upgrade & retrofit		Low

Indications are relative to FLSmidth

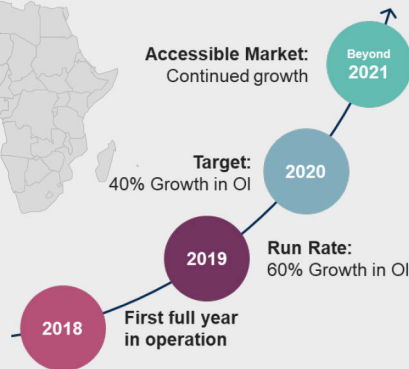
An organisation which supports increased sale of products and services



Examples of white spots



Ghana



Ghana & West Africa

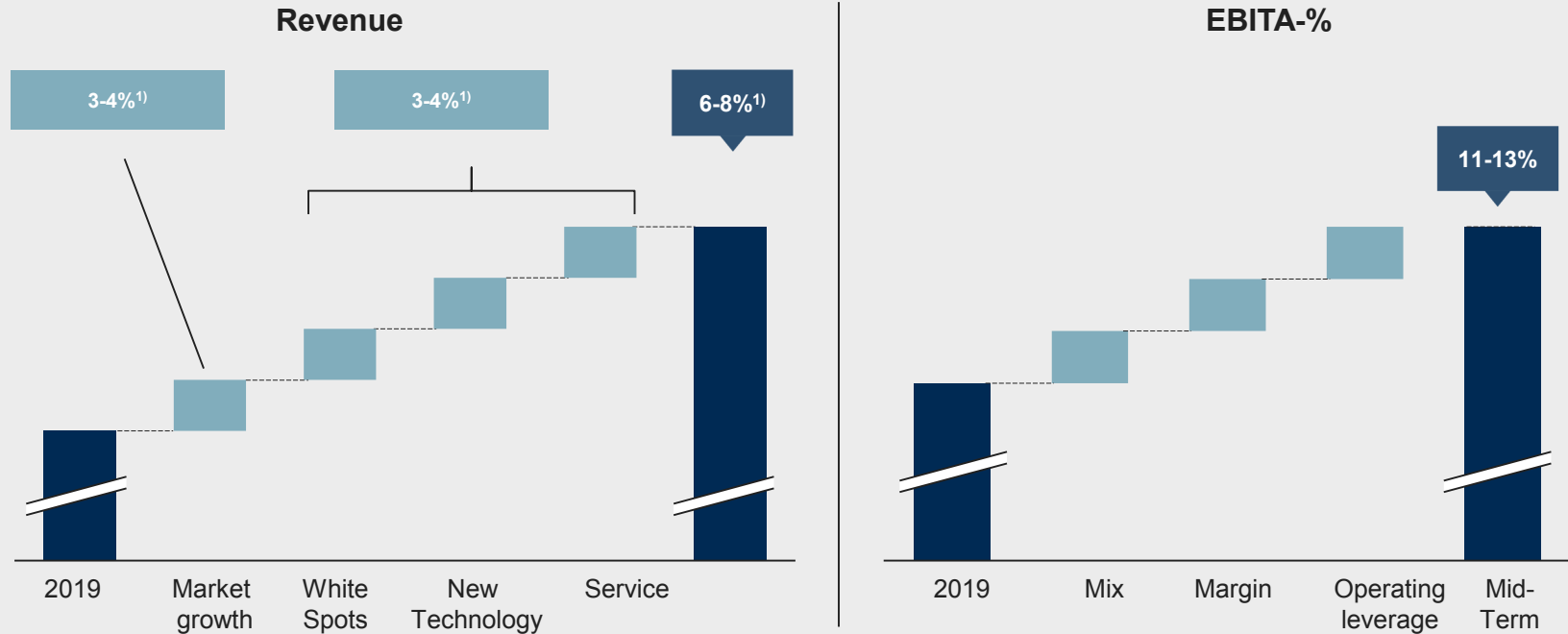


Saudi Arabia



Saudi Arabia

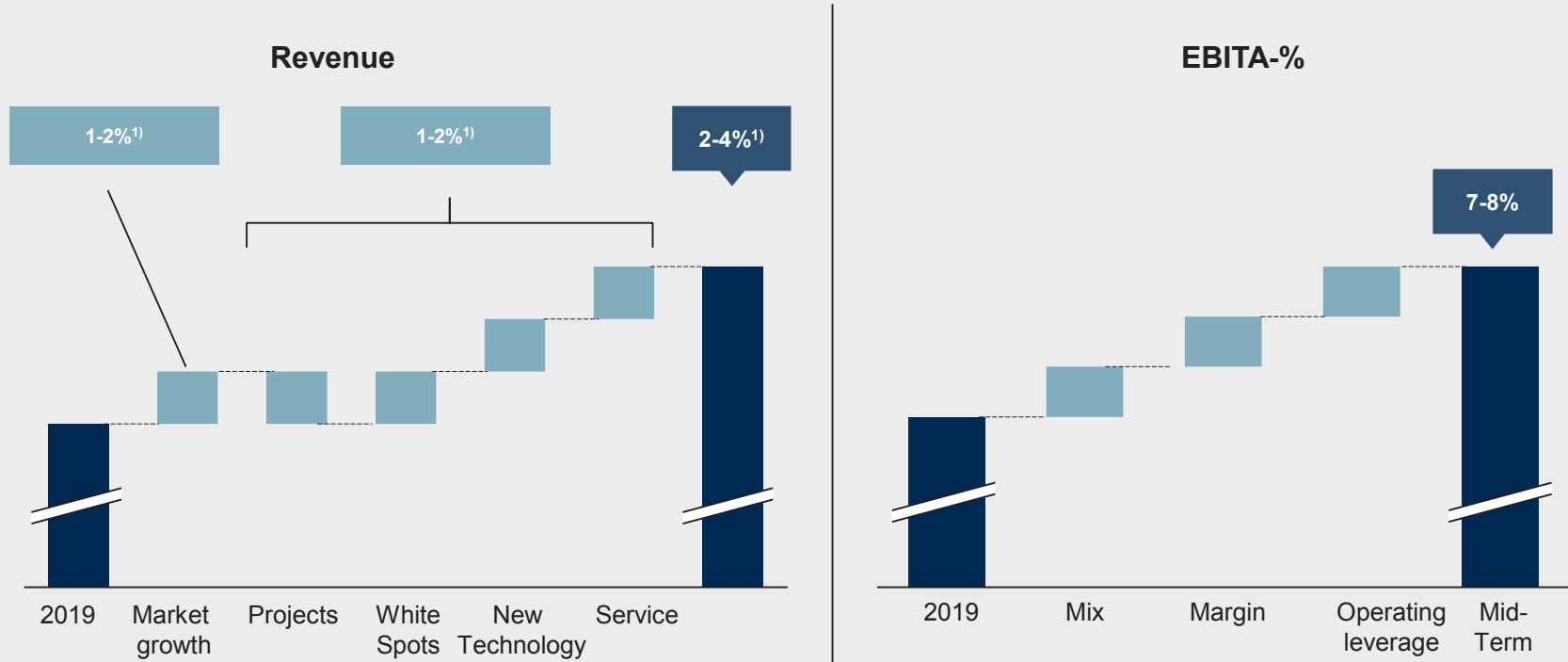
Mining revenue and EBITA margin



¹⁾ Average annual growth rate over the cycle

Size of bars does not reflect relative share

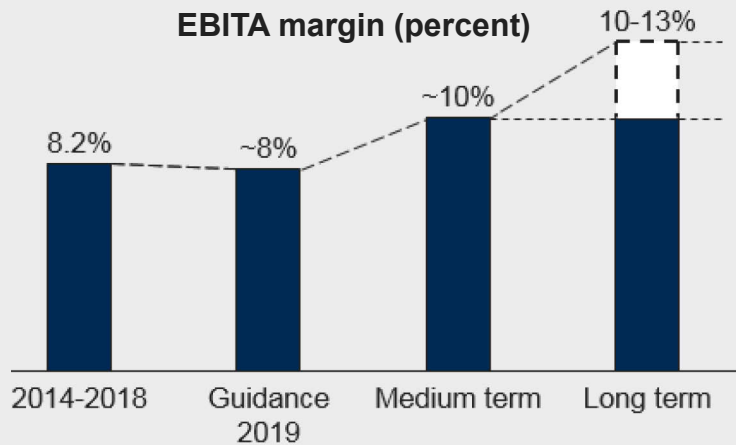
Cement revenue and EBITA margin



1) Average annual growth rate over the cycle

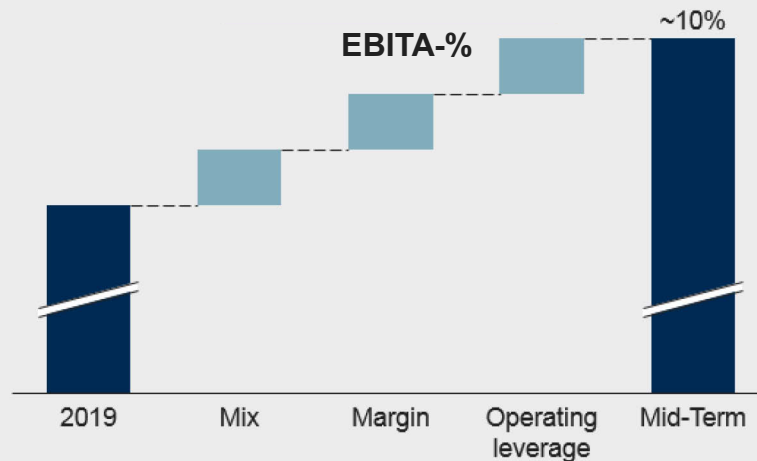
Size of bars does not reflect relative share

Group targets



Average for the period

Forecast



Size of bars does not reflect relative share

Group long-term targets

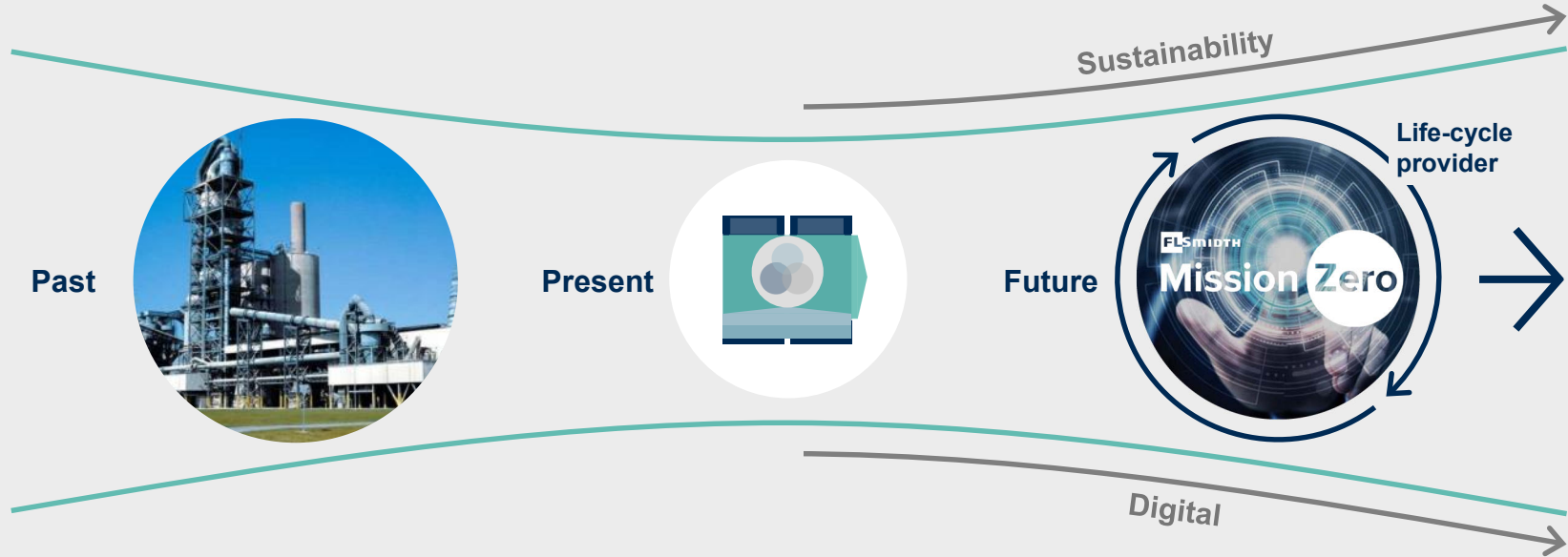
Revenue growth above market

EBITA margin 10-13%

ROCE >20%

A journey to become Productivity Provider #1

Profitable growth through sustainable offerings



- Engineering based legacy
- Global direct sales
- Competencies focused on Capital

- Leading supplier of productivity
- Engineering, products and services
- Strong digital foundation and offering of sustainable solutions

- “We drive success through sustainable productivity enhancement”